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IN THE ARTS AND SCIENCES TO HOME AND HEALTH

PREPARED BY TEACHERS OF
RECOGNIZED AUTHORITY

FOR HOME MAKERS, MOTHERS, TEACHERS, PHYSICIANS, NURSES, DIETITIANS,
PROFESSIONAL HOUSE MANAGERS, AND ALL INTERESTED
IN HOME, HEALTH, ECONOMY AND CHILDREN

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TESTED BY USE IN CORRESPONDENCE INSTRUCTION
REVISED AND SUPPLEMENTED

CHICAGO
AMERICAN SCHOOL OF HOME ECONOMICS
1907

DEDICATED TO

MRS. HELEN C. KIMBERLY

WHOSE INTEREST IN THE EDUCATION OF THE HOME-MAKER

AND WHOSE ENCOURAGEMENT AND ASSISTANCE

HAVE HELPED TO MAKE POSSIBLE

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FOREWORD

THE Library of Home Economics is the result of some years' experience in teaching by correspondence what may be termed the "New Profession of Home Making," and what Mrs. Ellen H. Richards has called the fourth "R" in education—Right Living.

¶ It is realized that the business of housekeeping has not kept pace with the tremendous advancement in other lines of human endeavor, that the wonderful discoveries in science and developments in the arts only slowly and partially have been applied to the problems of personal health and home life.

¶ With the object of giving home-makers and mothers, everywhere, some of the benefits of the teaching now offered in a number of colleges under the terms, domestic science and home economics, the correspondence courses of the American School of Home Economics were planned. Special lesson papers or text books were necessary, for ordinary text books are not adapted to correspondence instruction. From some years of experience in correspondence teaching in other lines, it was known that the lesson books, to be successful, must be simple, concise, non-technical, and above all sufficiently interesting and of immediate practical value to hold the attention of the student throughout the course.

¶ The aim has been, not to teach science nor to teach

theory, as such, but rather the best scientific practice with sufficient theory to show the reason "why" for such practice; in a word, to give as much real help and practical information as possible.

¶ After much planning and consultation, well known teachers were invited to prepare the lesson books from the standpoint of the average woman, and later these same teachers have given or supervised the correspondence instruction. The whole course is so planned that each series of lessons fits into and supplements the others, making one logical whole, without duplication.

¶ From the expressed appreciation of nearly two thousand students, the results sought would seem to have been attained. The scientific accuracy and scholarly tone of the books is attested by their use as text books in many prominent schools and colleges. Although prepared primarily for the woman in the home, as the books naturally embody the teaching experience of their authors, they have been found especially valuable to teachers and to those preparing themselves for various positions.

¶ The Library contains the complete series of lessons, including test questions, which the active members of the School answer in writing and send in, as a written recitation, for the correction and comment of the teachers. This correspondence work has given the text a most rigorous and effective test for clearness of statement and adaptability. In republishing the lessons for the Library such revisions have been made as seemed necessary to clear up all obscure points and to rectify original deficiencies.

¶ In addition, much supplementary material of interest

has been added by the authors, based on their experience in correspondence instruction. A number of special articles of importance are also included.

¶ At the back of each volume will be found a program or outline for supplemental study, making virtually an extension of each series of lessons. These are arranged primarily for classes taking up courses with the School by the group plan, but they should prove of equal value to the individual student and be very suggestive to teachers. The reference books mentioned and the small amount of apparatus required when experiments are suggested are loaned to members of the School when not available locally.

¶ In place of prefaces to the volumes, reproductions are given of the introductory letters of the instructors which are sent to students when each new subject is begun.

¶ The Library is published to give the members of the School their course of study in permanent form, with indexes for ready reference, and in binding worthy of the contents. It will also serve as a reading course for associate members of the School and will be available as a general reference work, making the public acquainted with the character and merit of the correspondence courses of the American School of Home Economics.

¶ It is in hope that it may serve as an inspiration and an authoritative guide for inexperienced home-makers; that it may open up a new world of interest to the experienced home-maker and give added meaning and importance to familiar tasks; that it may, in some measure, increase health and happiness, that the Library of Home Economics is offered.

VOLUMES

I THE HOUSE: ITS PLAN, DECORATION AND CARE

II HOUSEHOLD BACTERIOLOGY

III HOUSEHOLD HYGIENE

IV CHEMISTRY OF THE HOUSEHOLD

V PRINCIPLES OF COOKERY

VI FOOD AND DIETETICS

VII HOUSEHOLD MANAGEMENT

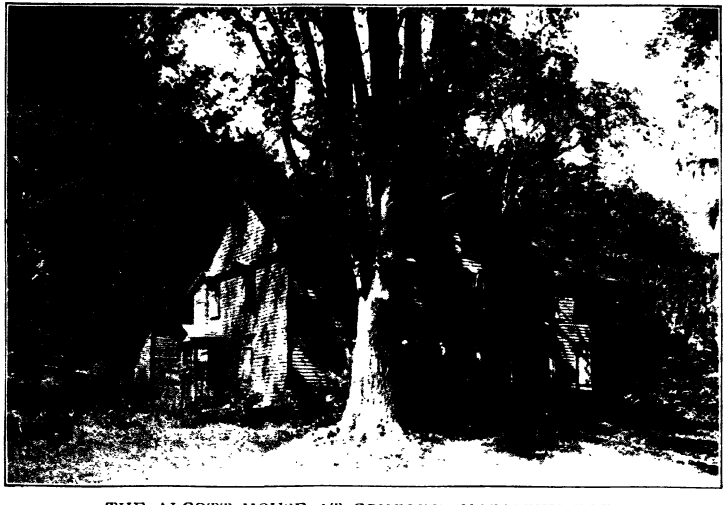
VIII PERSONAL HYGIENE

IX HOME CARE OF THE SICK

X TEXTILES AND CLOTHING

XI STUDY OF CHILD LIFE

XII CARE OF CHILDREN



THE ALCOTT HOUSE AT CONCORD, MASSACHUSETTS

THE HOUSE

ITS PLAN, DECORATION AND CARE

BY

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CHICAGO

AMERICAN SCHOOL OF HOME ECONOMICS

1907

ACKNOWLEDGMENT

In the preparation of this series of lessons I have received valuable suggestions and aid from different members of the College of Engineering, University of Illinois.

My grateful acknowledgments are due to Professor Nathan C. Ricker for help in securing illustrations for the "Evolution of the House;" also to Professor James M. White and Professor Seth J. Temple of the Department of Architecture for the house plans.

ISABEL BEVIER.

CONTENTS

AMERICAN SCHOOL OF HOME ECONOMICS
CHICAGO

January 1, 1907.

My dear Madam:

As the home is so inseparably connected with the house and as our comfort and efficiency are so greatly influenced by the kind of houses in which we live, much of interest and importance centers in the study of "The House"

Moreover, with the house, its evolution, decoration, and care may be associated much that is interesting in history, art, and architecture, as well as much that has a direct bearing on the daily life of the individual.

These lessons are the outgrowth of some class work in which the students and I have found pleasure and profit, so I am glad to pass them on with whatever of information and inspiration they may have for another and larger class of students.

If they help to a better conception and a truer appreciation of the meaning of the terms

house and home, they have not failed in their purpose.

I shall be glad to supplement what is included in the text with further details of personal application if I am able to do so.

Sincerely yours,

Isabel Bevier

TREE DWELLINGS OF THE TRIBES OF CENTRAL AFRICA

From "L'Habitation Humane"

THE HOUSE

Its Plan, Decoration and Care

IN our study of the House it will be interesting to review briefly what is known about the earliest human habitations and the way in which the modern house has developed.

THE EVOLUTION OF THE HOUSE.

It may be well to consider what is meant by the term "the evolution of the house." One hears much in these days about evolution in plans, plants, animals. For present purposes the following definition seems best suited: "Evolution is a process in which, by a series of continuous progressive changes, a complex arrangement, agency, or organism is developed from rude or simple beginnings as the evolution of civilization from savagery; the evolution of a chicken from an egg." The evolution of the house, then, means that progressive series of changes by which the modern house has developed or evolved from an earlier and simpler form.

Simpler Forms

What were some of these simpler forms? The modern house has a very definite meaning to most of us, but how little we know of its beginnings. Let us go back into that dim and shadowy past and find what it can tell us about the earlier human habitations.

It is so difficult to trace beginnings even of most important events and inventions. The origin of language, the origin of the family, the earliest home of the human race, are alike unknown; so we shall not hope to find the first human dwelling, but to find types of early human habitations, and in a study of these types to be enabled to see the evolution of the modern house.

Shelter

However much the modern house may differ from the earliest dwelling place, since both were destined to serve the needs of human beings, we may assume that the earlier, as the later form, has been intended to meet some primal human need. Man today needs shelter from the summer's heat and the winter's cold, protection from the wind and the storm, defense from wild beasts; so it seems most probable that his brother man in the earlier ages of the world had these same human needs. Those who have studied most about early human habitations seem quite agreed that man found his first shelter under the spreading branches of a tree. In a warm climate and in the absence of wild beasts a tree might meet his requirement for shelter from the sun's rays. Viollet Le Duc in his "Habitations of Man in all Ages," gives us a picture of this first human dwelling. Moreover we know that trees are now occupied by tribes in Central Africa and South America.

Trees

The overlapping and intertwining of the branches are supposed to have suggested the thatched roof for which shingles were later substituted. Viollet Le Duc

FIRST HUMAN DWELLING

shows how the primitive hut may have been suggested by this putting together of the branches of the tree and intertwining of them. But trees are not found everywhere and cannot be moved from place to place.

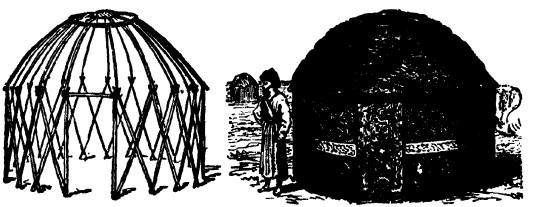
Among nomadic tribes whose place of habitation is dependent upon the water supply and the pasture a

PRIMITIVE HUT MADE BY INTERTWINING OF BRANCHES

movable dwelling is a necessity. A small amount of wood would serve as a frame work or support and skin for a covering, while its lightness and ease of

transportation made the tent a most desirable dwelling. We read how Abraham sat at the door of his tent, and how the Israelites dwelt in booths at the

Tents



TENT OR HUT
[Light framework covered with Reeds or Woven Straw

time of one of their great festivals. "And ye shall take you on the first day the boughs of goodly trees, branches of palm trees and the boughs of thick trees and willows of the brook—ye shall dwell in booths

TENTS OF NOMADIC TRIBES

seven days."*

One other form of dwelling which Nature has pro-

Caves

*Leviticus xxiii, 40.

vided for her children was that of the cave in the rock from which it was sometimes necessary to drive out the lower animals before it could be used by man. The cave finds its modern counterpart in the "dugout"

TWO-STORIED TENT COVERED WITH SKINS

of the west. The sod house or "dugouts" are neither so durable nor desirable as the log cabin which has served as a dwelling place for so many pioneers. The log cabin seems to be the most universal form of early dwelling. Types of it are found among primitive and modern races, in Russia, and in all parts of the United States.

Pueblos

Two other forms of human habitations are of interest particularly to Americans. First: The pueblos;

this name signifies a market town or village and is applied to the structures found in Mexico. They consist of a compact mass of rooms that may be entered only from the top. They were entered by ladders and the ladders were drawn in after the people, so these

REED TENTS OF AFRICAN TRIBES

dwellings offered considerable security to their occupants. These buildings were made of stone carefully laid and the crevices filled with clay and mud. They are both rectangular and circular in form. They contained from two to six stories with seventy or more rooms or cells on each story. Some of the rooms communicated with each other by trap doors, and some of them had openings in the side walls admitting light and air.

Description of Pueblos

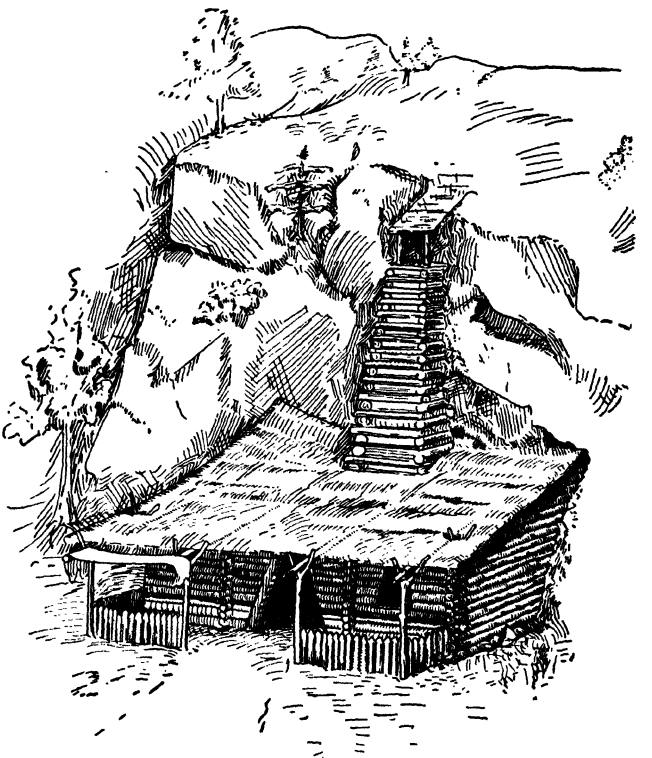
Mr. Lee Childe gives a description of a modern Indian pueblo which he visited in 1881. "Before us," he says, "on the right are two rows of these adobe habitations, low, with no openings outward, no doors, no staircases. The flat terraced roofs are reached by a movable outside ladder. All the windows and doors

LOG HOUSES OF RUSSIAN PEASANTS

open into an inside court which can only be reached by going down another ladder. Each house is thus a little fort into which, the ladder once withdrawn, neither man nor beast can penetrate."

Communal Life

The general arrangement of the cells in these habitations indicates that the inhabitants had a communal rather than a family life. Travelers speak of the morning chant and the proclamation made at dawn by the chief. The chant is supposed to be an act of wor-



PRIMITIVE LOG HOUSE OF THE ARYANS

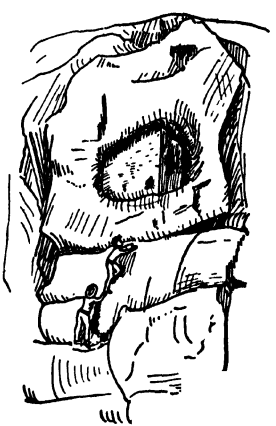
Shows chimney which seems to have been lost for some years

PUEBLO OF TAOS, NEW MEXICO

ship, and the proclamation the assignment of the day's tasks of the different families living in the pueblo.

Cliff Dwellings

The second form of habitation which in general character much resembles the pueblo are the cliff dwellings. The cliff houses were built of rock or cliffs and were often reached with great difficulty. Their shape and size depended largely upon the form of the cliff. The walls are of stone cemented with clay, and they show much skill in construction.



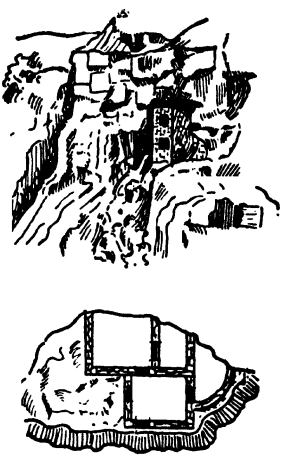
House in a Rock

While these later forms show much architectural skill and knowledge of the management of materials, they would seem very unsatisfactory dwellings to the modern man. The absence of light and heat, the

stone floors and bare walls, with no provision for sanitation do not accord with the idea of what a modern house should offer.

Besides these typical American forms of dwellings, we will consider four others, viz.—The Swiss, Grecian, Roman and Japanese dwellings.

The lake dwellings of Switzerland are older than the pyramids of Egypt. They were built in the still waters of lakes, but far enough from the shore to be safe from disturbance. As life became safer, the lake dwellers came back to the land.



Rio Mancas, Two-Storied Cliff House and Enlarged Plan of Rooms

In the primitive dwellings which we have considered the one requirement which they have all met has been that of protection or defense. As civilization advanced and man learned the use of tools, domesticated animals, learned the arts of weaving and of working in wood and metal, his dwelling came to mean something more than a place of shelter. Moreover, the character of the country, the climate, the

More than Shelter

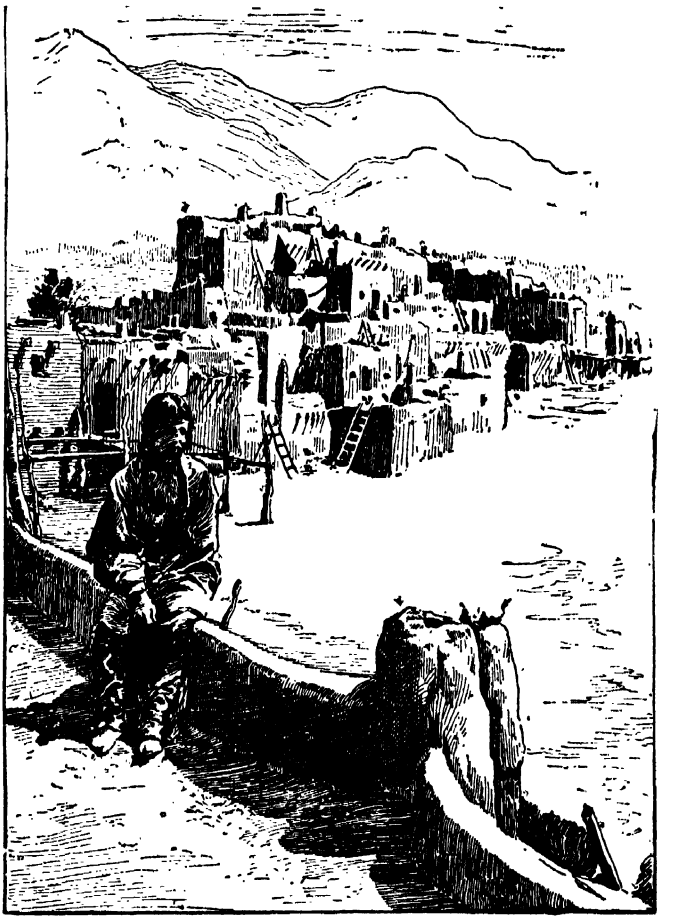
kind of building material at hand, all had a part in determining the kind of dwelling that was built in any locality.

Greek Houses

Among the Greeks the energies of the people seem to have been given to the making of temples rather

LAKE DWELLINGS OF SWITZERLAND

than private dwellings. Judging from the indications home and family life as we understand it were almost unknown to the ancient Greek. The dwellings were within walled cities; of one story with stone floors. The absence of any provision for family life is very



PUEBLO OF TAOS. (After a Photograph.)

RESTORATION OF INTERIOR OF A ROMAN HOUSE

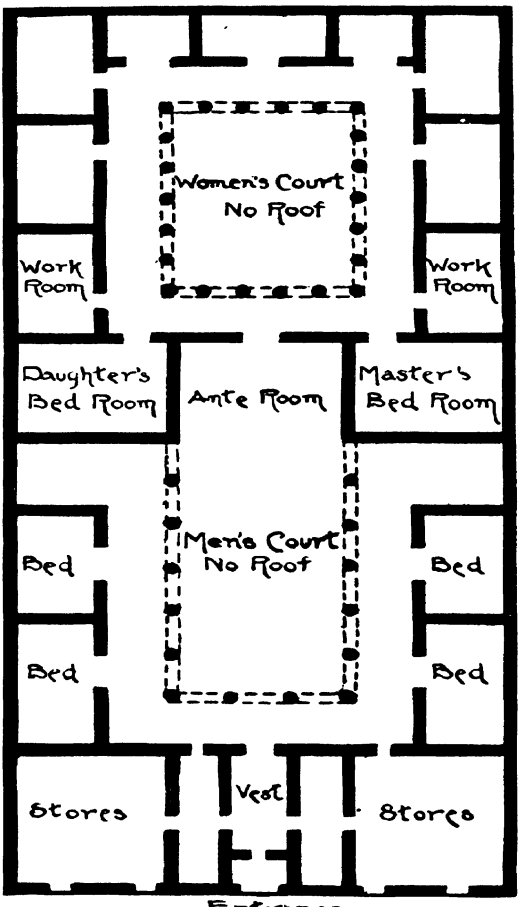
The Ornament on the Walls Painted in Vivid Reds, Browns, Blues and Yellows

evident. The two principal divisions are the courts for men and women. The seclusion and separation of the women is shown in the general plan. It is said that the Greek woman of the wealthy class was not expected to leave her home more than about once a year; that she never appeared at dinner with her husband if a guest were present.

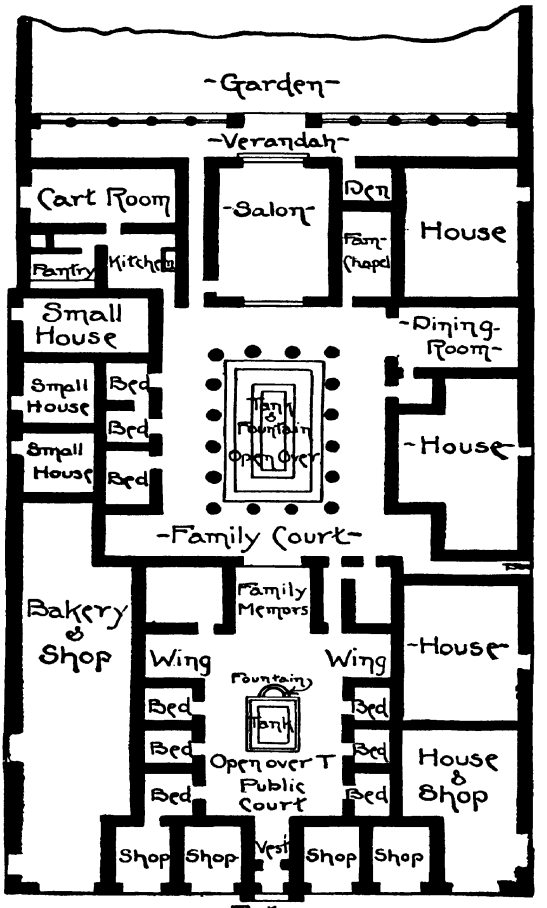
We see in the plan given the combination of the shop or small store with the dwelling. The entrance is guarded by the porter. The vestibule leads into the men's court about which are the bedrooms for the men. The anteroom separates the women's part from the men's, and about the women's court are various rooms in which the house work is done. There seems to have been no general room for both men and women. The house was sometimes two stories. In that case the women's apartments were in the second story.

Roman Houses

We are indebted to the ruins of Pompeii for the knowledge we have of Roman houses. These houses were derived from the Greek house with its two courts. The plan shown is evidently the house of a wealthy man. We see here the combination of the shop and small house with the larger house. There is the family court and the public court. One has said that the Greek house was made for the use of men and women, the Roman house for public and private life. The house occupied a block. The outside was rented to tenants and used either as shop or

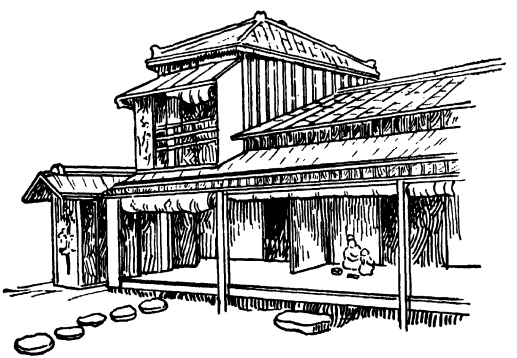

Women's Court
No Roof
Work Room
Work Room
Daughter's Bed Room
Ante Room
Master's Bed Room
Men's Court
No Roof
Bed
Bed
Bed
Bed
Stores
Vest
Stores
Entrance

GREEK HOUSE


-Garden-
-Verandah-
Cart Room
-Salon-
Den
Fam-
(chapel)
House
Pantry
Kitchen
Small
House
-Dining-
Room-
Small
House
Bed
Bed
Small
House
Bed
Family
Fountain
Open over
-House-
-Family Court-
Family
Members
Bakery
&
Shop
Wing
Wing
-House-
Fountain
Bed
Bed
Bed
Bed
Bed
Bed
Tank
Open over T
Public
Court
House
&
Shop
Shop
Shop
Vest
Shop
Shop
Entrance

ROMAN HOUSE

house while the family dwelling centered about the inner court. The walls were of wood finished with plaster; the floors of stone. There were no windows, but there was a good water supply and drainage. The house was heated by braziers containing charcoal, and lighted by wicks in oil. The Roman loved display



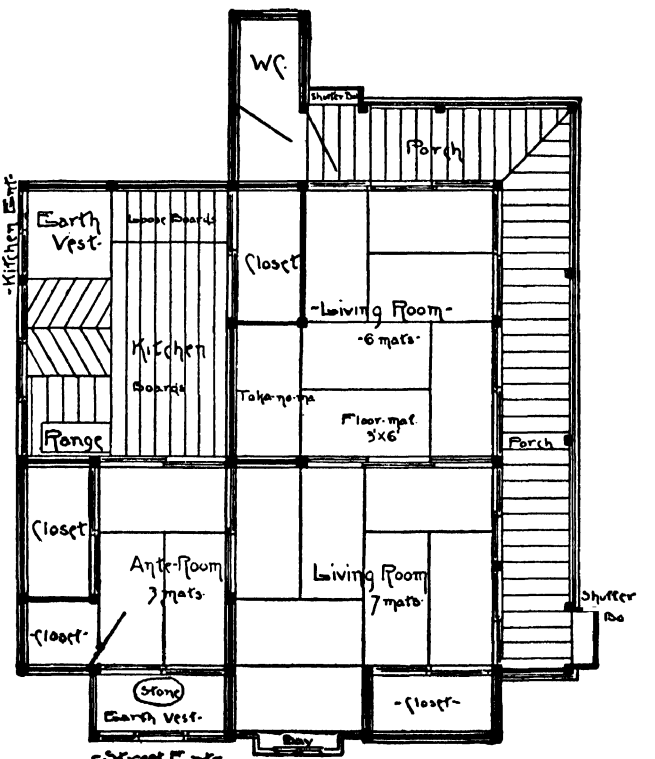
EXTERIOR OF A JAPANESE HOUSE

and publicity and much of his time was spent in the forum or the theater. The Roman woman enjoyed greater freedom than the Greek.

Japanese Houses

The Japanese house is built of wood with tile roof and no cellar; its walls are made of sliding shutters so that it is possible to make doors anywhere. The size of the rooms is decided by the number of mats. These mats are made of straw, size 3 x 6 ft. There are no bedrooms needed in a Japanese house because any of the rooms can be transformed into a bedroom

by putting thick comforters on the mats. This practice is much more cleanly than it sounds to an American because the Japanese houses are kept exceedingly clean

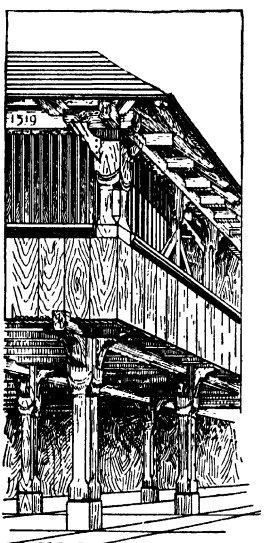


FLOOR PLAN OF A JAPANESE HOUSE

and the shoes are removed on entering the house, so the dust of the street is not carried in.

The rooms are used for different purposes. No chairs are used and no dining room tables. Charcoal is used for cooking. It is said that the kitchen utensils are kept under the floor. The wooden verandah is also inclosed by shutters.

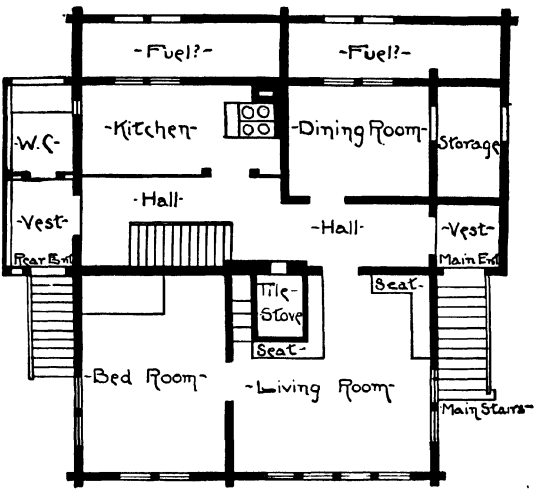
Swiss Houses



Swiss House. Basement used for Cattle; Upper Stories for the Family

The Swiss houses are made almost entirely of wood. The lower story is of masonry and the basement is sometimes used for stores and for the domestic animals. Timbers of the lower story project, forming corbel windows.

To summarize this section: We see that through the centuries there has been a progressive series of changes in human habitations. From the shelter afforded by a tree, the tent, the cave, and the log cabin of one room, the courts of the Greek and Roman houses, or the great hall of the castle, to the modern house of today is a long journey, marked at various times by the introduction of those elements which



SWISS HOUSE, SECOND FLOOR PLAN

enter into the modern house. The thatched and stone roofs have been replaced by slate and wood. Here the window has been introduced; there the chimney. The ladder has been replaced by a beautiful staircase. Provision has been made for heat and light. The artist and architect have combined to make the modern house not only the place of shelter but the place of beauty as well.

DEVELOPMENT OF THE AMERICAN HOUSE

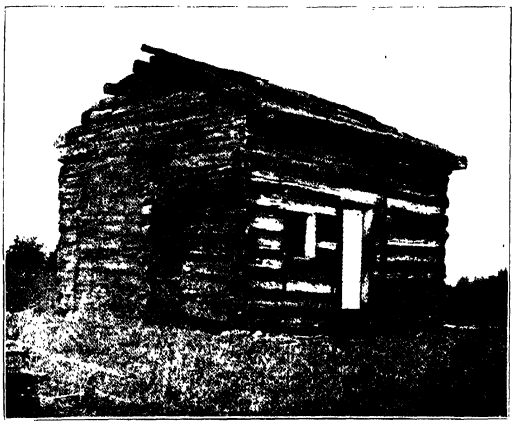
Civilization and Architecture

In the previous section some steps in the evolution of the house have been briefly outlined. It is evident that social conditions and climate influence the character of the buildings of a country or nation. So we have what are called the characteristic buildings of different nations. For example: Egypt is noted for its temples and towers; Assyria for its palaces; Greece for its temples; Rome, for its bridges and aqueducts; mediæval Europe for castles and churches; the Low Countries, for their trade halls; England, for its country houses, and the United States, for its fine office and municipal buildings. So we realize the truth of the statement that much of the civilization of a country can be read in its architecture.

Conditions Influencing American Architecture

It may be well to consider how social conditions and tradition have influenced American architecture. In a new country there is less of conventionality, greater freedom of action, more originality in the manner of conducting affairs, often less wealth and fewer class distinctions than in an old and well established community. Judged by the standards of the old world America is a very new country. When its resources were undeveloped and its people had little wealth its life and its houses were very simple, limited for the most part to the necessities, but as the development progressed, life became more complex, more influenced by the traditions of these lands whose descendants had

SOD HOUSE ERECTED BY EARLY SETTLERS OF WESTERN PRAIRIES



LOG CABIN IN WHICH PRESIDENT LINCOLN WAS BORN
Typical of the Houses of the Early Settlers. Chimney on the End Partly Demolished

settled in America. Moreover, America has always been a land for the people—not for any one class, but for all the people. Its architecture shows some of these same characteristics. It is original, varied, irregular, with a strong individuality. Again, the Americans are a comfort-loving people, so they demand comfort and convenience in a building, whether it be house or shop. The marble halls and stately palaces of the old world, beautiful though they be on the exterior, do not appeal to the American because they are damp and cold; the same is true of many of the European dwelling houses.

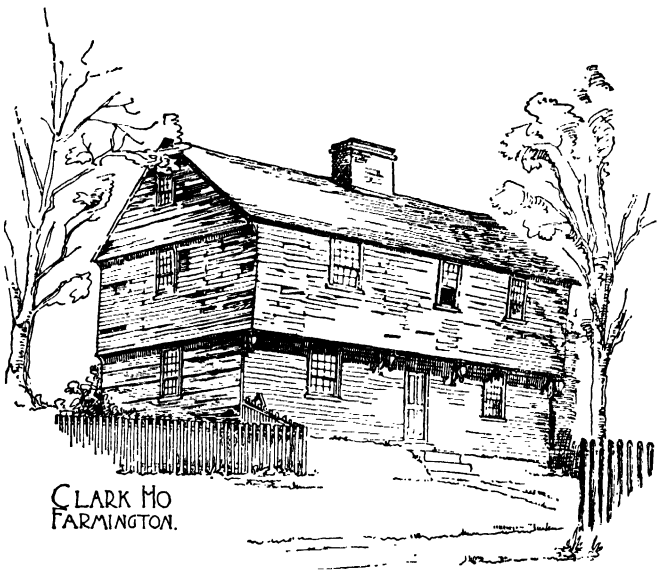
Comfort and Convenience

Early House Lacking in Beauty

The artistic sense of the people has not been developed by association with the art treasures and splendid buildings which are so numerous in the old world, so for many years American architecture was sadly lacking in beauty. It was natural that builders should follow the forms of construction which were used abroad. It was soon found, however, that many of those forms were unsuited to the life and customs which prevail in this country. A castle, for instance, is not adapted to the free and simple life of America. The English country house or manor is not suited to

FAIRBANKS HOUSE AT DEDHAM, MASS., BUILT IN 1636

From "Home ity and Country"
Charles Scr s Sons, Publishers



Built about 1650. Second Story Overhangs Front and Sides

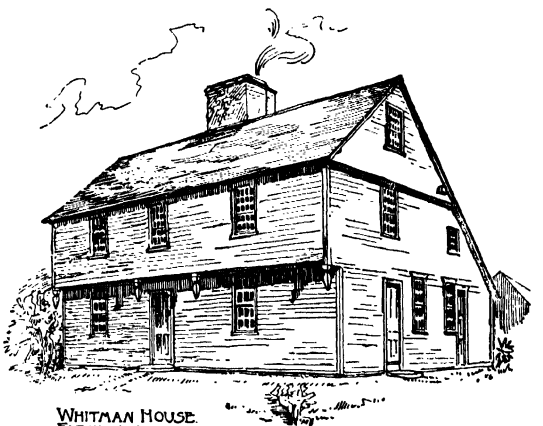
From 'Early Connecticut Houses'
Preston and Rounds Co., Publishers

country life in America. Nor do Americans wish the first story of their city houses to be given up to stables and shops as they are in Paris. So the newer and better architecture of America is formed by taking the elements of proportion, symmetry, and beauty as found in the old world structures and using them in the construction of buildings which are suited to the needs of Americans.

DOMESTIC ARCHITECTURE IN THE UNITED STATES

Log Cabins

As we know, the log cabin was the earliest home of the colonists. The construction of the early houses was much the same though they differed in the number of rooms which they contained.



Built about 1660. Shows Front Overhanging and Long Sloping Roof

From "Early Connecticut Houses"

The logs were dressed on two sides and placed one on top of the other until the structure was high enough for a tall person to walk about in it. The crevices between the logs were filled with mud. The roof was made of poles covered with straw or reeds. Fireplaces at first were made of sticks, and plastered on the inside with clay, but later of stones or brick laid in mortar.

Beginning of Half Timbe Work

After the year 1600 domestic architecture developed rapidly. The construction was changed from log walls only to the introduction of clap-boards—a beginning in half timber work. The following description is given by Mr. Plym, of a house of the period

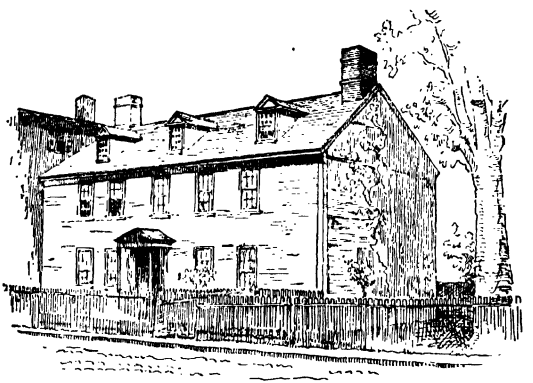
Has an Entrance Porch, the Sloping Roof Covering the "Lean-to" Retained

From "Early Connecticut Houses"

known as "Old Colonial:"

"Old Colonial" House

"This was probably the most common type, having eight rooms and a front central stair hall. The fireplaces were symmetrically located on the inner walls, while the exterior was decorated with a small portico. The second story was usually constructed of heavy log timbers placed at regular intevals, which served as a ceiling for the rooms below. The outside walls were often packed with mud or sea weed to add to their warmth in winter and coolness in summer. Ice



Built about 1715. A Two-Story House with Do ner Windows. North End of Brick
From "Early Connecticut Houses"

was kept in the cellar and was reached through a trap-door in the floor. About 1630 hand-cut wood shingles came into use for roofs, and brick and other materials were brought from Europe. The several colonies, English, Dutch and Swedish, began to show individuality in their designs, which was suggestive of their native buildings. The Dutch houses were especially distinctive on account of the gambrel roofs with heavy over-shot eaves and practically no cornice on the gables. They often constructed their houses of stone and barred their windows with solid panel shutters."

Types Two quite distinct types of colonial houses are found in the earlier houses, both founded on English models:

1. The Puritan or New England.
2. Those houses which were built on the large estates in Virginia.

New England Old Colonial

Climate and social customs have left their impress on each. The early Puritan "on that rock-bound coast" found life a rather serious business, and his architecture has something of severity in it. The houses are built comfortably of three stories, with very plain exteriors.

The Virginia homes of the eighteenth century offer quite a contrast to this. In the "sunny south" the climate was pleasant, the soil productive. There were plenty of slaves to do the work; the owner of the estate was socially inclined; circumstances favored a luxurious mode of life, so the house needed to be large to accommodate the family, guests, and slaves,

Specimen of Early Dutch Architecture, Long Island, N. Y.

From "Homes in City and Country"

and to maintain the generous hospitality for which the region is famed. Monticello is one of the most typical of these estates. It is said that Jefferson ruined himself by his hospitality.

Plan of Southern Old Colonial Houses

The houses consisted frequently of a central two-story portion with two wings. The wings were

Rhode Island and Connecticut Shore House, with Gambrel Roof and "L"
From "Homes in City and Country"

sometimes used for guests, sometimes for domestic servants. The use of brick when wood was so much easier to obtain showed how the colonist clung to his English models. The fact also that they were slow in introducing the veranda so much needed for protection against the heat of an American summer is due to the same slowness to give up old ideals. The

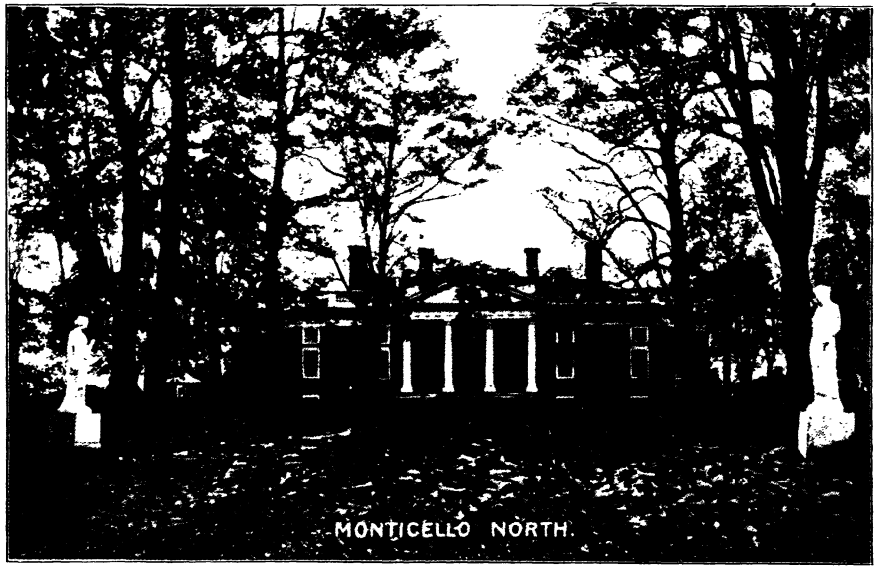
importance of the hall in the early colonial house must not be overlooked. It was living room, dining room and frequently guest room, in fact all the house except kitchen and bedroom. The common life of the family centered about this room, and to it the family treasures in the way of good furniture were brought.

Limitation of Colonial Builders

The colonial builder was limited both in materials and skilled workers. He had plaster, wood, and paper, but good plasterers were scarce; carpenters were the best craftsmen of the times, so the wood work of the colonial builder remains his chief title to recognition. It is said that much of the best interior work in the coast towns was done by ship carpenters who had left

STRATFORD HOUSE, WESTMORELAND COUNTY, VA.
The Birthplace of General Lee, built in the 18th Century, of Bricks sent over from England

THE HOME OF THOMAS JEFFERSON



CLASSIC COLONIAL. TYPICAL OF THE HOUSES OF THE SOUTHERN PLANTERS

their ships for a season. Desmond and Croly say: "Colonial architecture has well been defined as 'the carpenters' interpretation of the Renaissance.' In no other country was the carpenter permitted a rendering of the great classic revival.

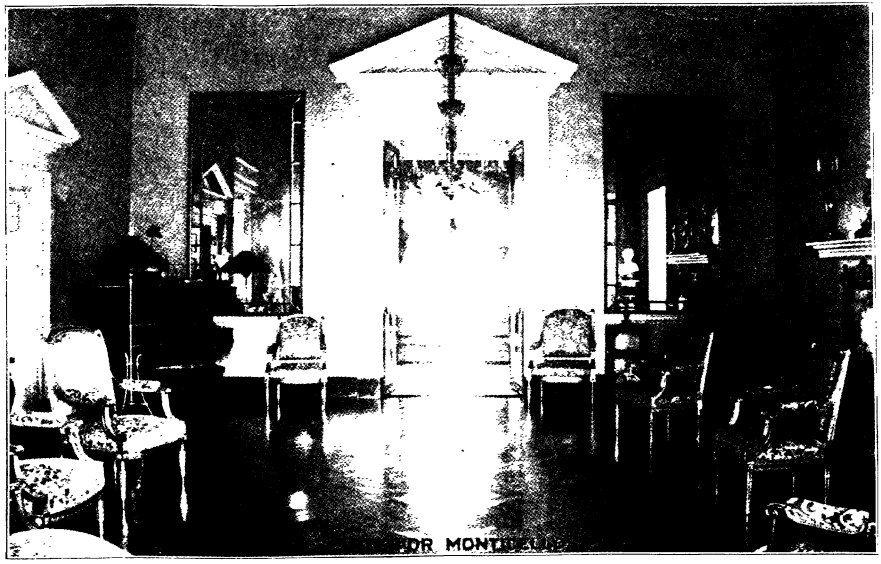
Influence of the Carpenter

"The predominance of the carpenter rather than the mason, arising immediately from the great variety and abundance of native American woods, is from the start one of the most important facts connected with American architecture and to the present day it has not lost its importance. In structure and ornament the American house has been made largely—too largely—of wood. In colonial times, while a good tradition prevailed, the use made of the material was acceptable; but later when the craftsmen had deteriorated, the excessive importance granted to a building material that is flexible, cheap, and tempts the unwary into multiplying members and elaborating detail, was partly responsible for some of the most grotesque wooden malformations which the world has ever seen. Moreover, our wood work, founded as it was upon forms that pertained properly to the masons' materials, has always betrayed a leaning toward a decadent principle, which has not been without a generally corrupting effect upon American practice."*

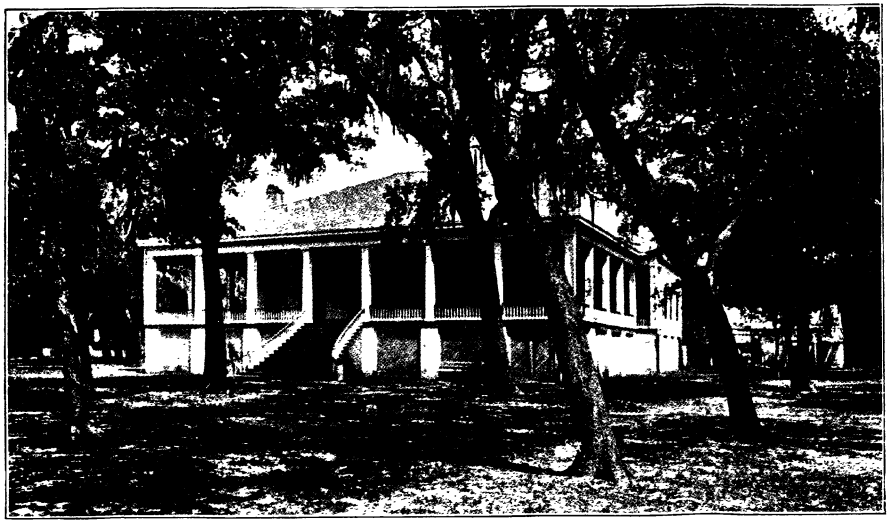
Careful Detail

The Colonial architecture was characterized by carefulness in detail, by a considerable use of moldings as

*"Stately Homes in America."

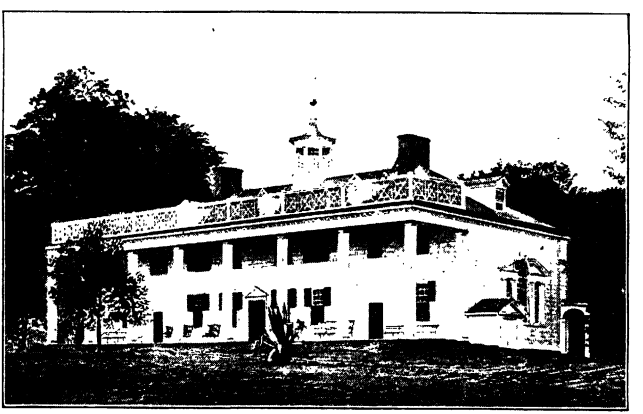


SHOWING COLONIAL DOORWAY



A SOUTHERN COLONIAL COUNTRY HOME
"Beauvoir," the Residence of Jefferson Davis

a finish for doors, windows, chimneys, and paneling. The staircases with their newel posts and baluster gave an opportunity for much fine work, the carving of which often showed much delicacy and skill. The paneling and the fireplace were sometimes the best features of the work. Desmond and Croly say: "The



MT. VERNON, THE HOME OF WASHINGTON
Southern Colonial House

detail was most carefully and elaborately worked. Often it is somewhat stiff and lifeless; but it is always moderate and correct; and occasionally it is of an exquisite and delicate simplicity. The Colonial is the one type of building in our architectural history which bears the mark of a definite style. It is strongly distinguished from every subsequent style of residence,

because it was used in the colonies for something over a century; and because throughout all that time it prevailed absolutely. The owners of these Colonial houses were nothing more than ordinarily well-to-do men who had enough money to live in a pleasant and generous manner, but who very distinctly could not afford any considerable extravagances; consequently, while they built substantially they were also obliged to build economically. One of these old brick houses frequently took many years to erect, and required on the part of the owner and builder the utmost patience and the utmost ingenuity in overcoming obstacles. They did not have the benefit of expert assistance; there were practically no professional architects in the colonies until the very end of the colonial period; and they were engaged almost exclusively in the design of public buildings. The only assistance upon which a man who wanted to build could rely was that of trained mechanics, who were frequently imported for the purpose, and who naturally built according to rule. That under so many disadvantages the result was often so admirable, is most excellent testimony to the training of the eighteenth century hand craftsmen. They had been educated in a good school; they knew how to do certain things only, but everything they did was well done; and if their tradition and method of work had only survived for two or three generations, we Americans would have been spared a caution of ugli-

Substantial and Economical

HOUSE AT GLOUCESTER, MASS.

New England Town House with Gambrel Roof
Photograph by E. O. Sylvester, Boston

BIRTHPLACE OF OLIVER WENDELL HOLMES

A Colonial Gambrel Roof House of Greater Size and Pretensions

ness—particularly in wood-work—which persists among American carpenters to the present day."

Deficiencies of the Old Colonial Style

While there is so much that is favorable to be said concerning the "old Colonial" style it is but fair that

THE "OLD MANSE," CONCORD, MASS.
Home of Hawthorne and Emerson

we should consider the unfavorable statements also and Desmond and Croly close the chapter on "The Colonial residence" thus: "At the time the colonial style prevailed it was admirable because it was safe; but in view of the immensely richer materials and larger opportunities which architects of the present time have at their disposal, they cannot afford to ac-

cept the colonial tradition too seriously. Both as regards outside and in, the excellence of the colonial dwellings depended on their decorous and unobtrusive character. They aimed studiously at under-statement. Their owners were people of taste, in whom the ideal of respectability was still fortunately allied with some notion of good form, and who would not for the world do anything to violate the prevalent proprieties.

Lacking in Breadth of Style

But it lacked structural and functional character; its range of expression was extremely limited. It is associated somehow with a tea table respectability, an old maidenly reserve and propriety; it is quaint and stiff and charming, but it lacks the richer tones, the deeper harmonies, the grander style of some French and Italian models. It remains, nevertheless, one of the best sources from which to derive the forms of a modest and inexpensive modern dwelling, for its designs are simple, its material cheap, and the character of its expression adapted to the houses of quiet people of good taste without much originality."*

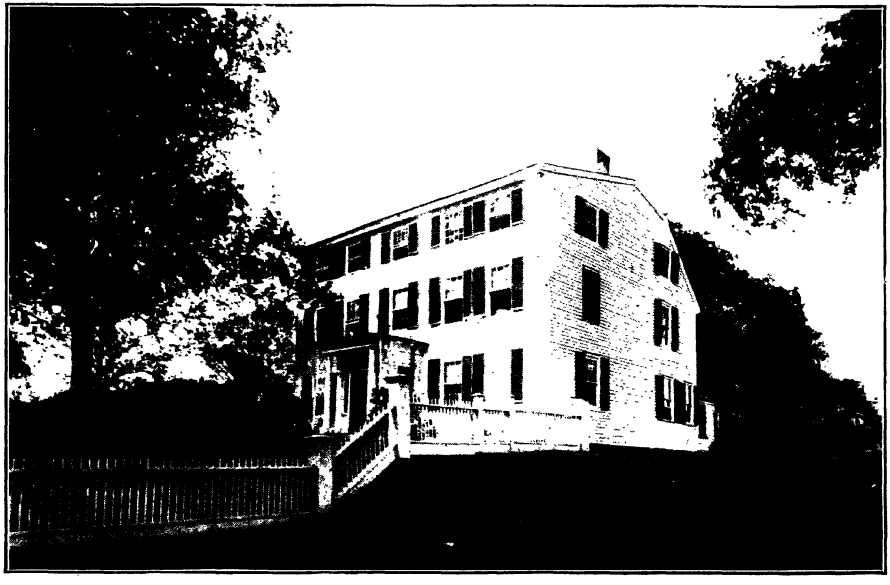
Transitional Period

What might be called the decadence of the colonial style of architecture, or the transitional period, began in the early part of the nineteenth century. The White House is among the last and best known examples of pure Colonial. The times were revolutionary in more senses than one. New social and economic forces were at work. The people were trying experiments in government and business. The condition of the country

*"Stately Homes in America."

A COLONIAL COUNTRY DWELLING

The Comfortable New England Farm Type
Photograph by E. Q. Sylvester



COLONIAL HOUSE, NORWALL, MASS.

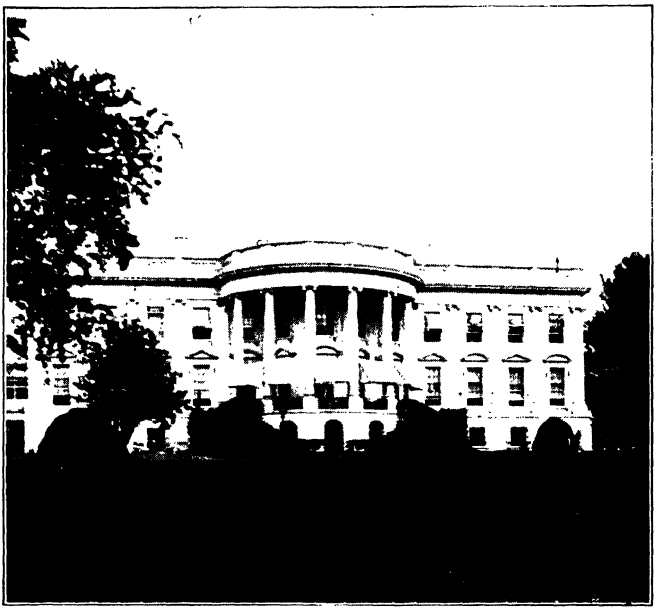
was unsettled. Houses, especially on the borderlands, were temporary structures. The standard of handicraft was lowered. It seemed necessary to build quickly rather than well.

After 1825 domestic architecture ceased to be colonial. The use of classic forms was revived and led to

CRAIGIE HOUSE, CAMBRIDGE, MASS.
Headquarters of Washington and Home of Longfellow. An Example of New England Colonial House

the making of wooden parthenons for public buildings and for a dwelling house a Doric or Ionic temple. The rapidity with which one kind of architecture followed another was remarkable. The classic forms were

Monstrositier

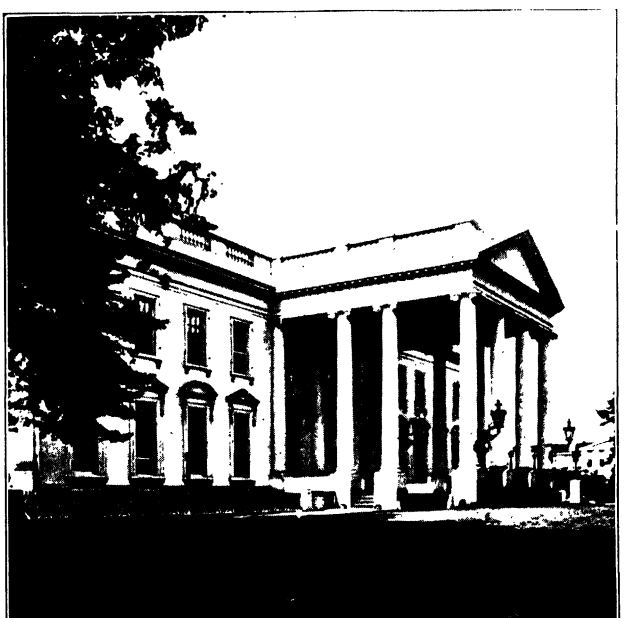


THE WHITE HOUSE, SOUTH FRONT

succeeded by the use of French and Italian models. The stately mansion in the Greek was followed by the picturesque villa. Many of these dwellings were built along the Hudson about the middle of the nineteenth century. This century marks the development of the city house. There was a great deal of indiscriminate imitation of Old World forms. The French villas were succeeded by Italian ones. The Gothic was intro-

duced in ecclesiastical buildings, such as Trinity and St. George's churches in New York City, about 1850. The Romanesque revival began in 1877 with the completion of Trinity church in Boston and deserves mention because it is associated with the name of Richardson, one of America's best architects.

Now we have the country house, the city residence, and the suburban dwelling, each with its characteristics



NORTH FRONT OF THE WHITE HOUSE

strongly marked. Various localities have also their distinctive types. Root says: "In the growth of their plans Western city houses have tended also toward greater enlargement and importance of the living and dining rooms at the expense of the parlor and reception rooms."*

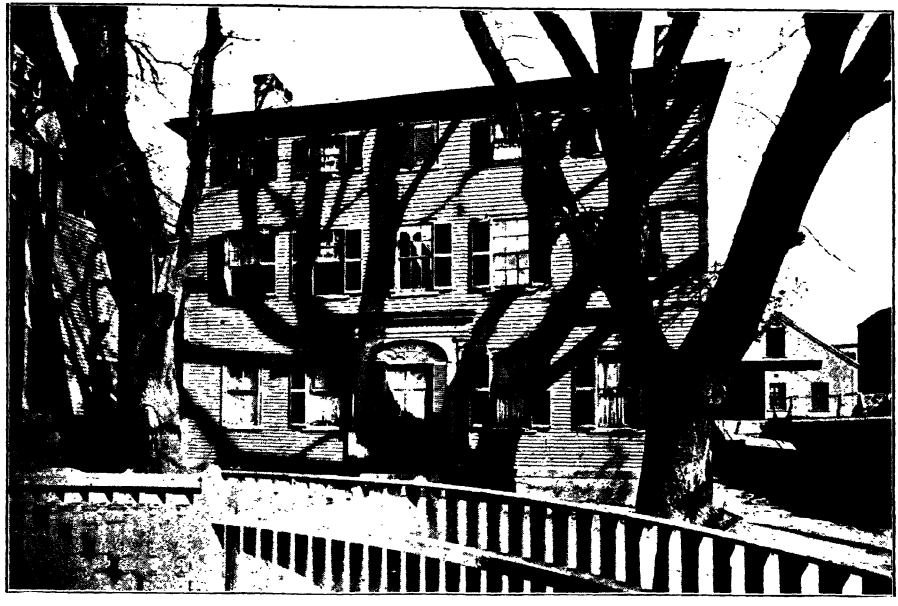
Western City Houses

One feature in the plans of Western city dwellings must be clearly defined. This is their openness. Not only are windows upon the average larger than in the East, but they are more frequent.

Price says: "The ordinary older cottages, those of a quarter of a century ago, were generally planned with a single entrance facing the approach; this opened from a porch into a passage rather than a hall, with the stairway starting a few paces within and running straight up the side wall to the floor above; the parlor and library to right and left, with the dining room beyond the one and the kitchen beyond the other. Between the last two came the butlery and servants' stairs and the back door, which usually in the family life of the occupants became the thoroughfare to and from the house. This, pure and simple, was the general plan from which the house of to-day started. Step by step it developed; the passage became a hall; the staircase changed its position; the parlor became less important, the fireplace more so."*

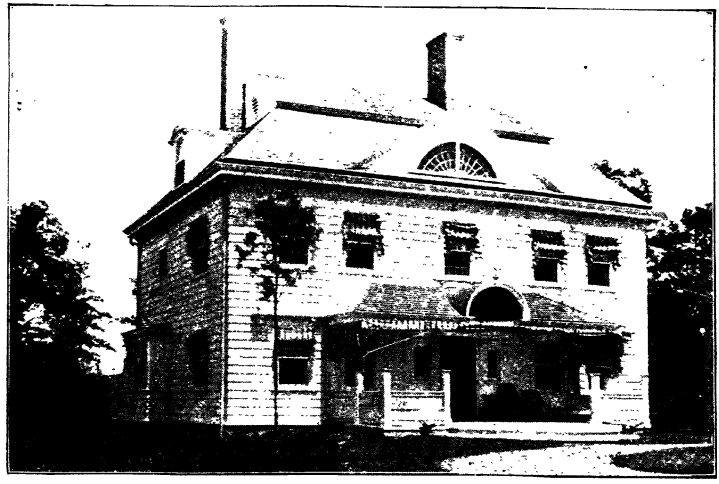
So much, or rather so little, out of all that might be said for the evolution of the house in the United

*"Homes in City and Country."



A THREE-STORY COLONIAL HOUSE

Typical of the New England Town Type, Common in Salem, Portsmouth, Newburyport, etc.



EXAMPLE OF A MODERN COLONIAL HOUSE

Porch Treatment Typical of Old Colonial House in Pennsylvania
Joy Wheeler Dow, Architect

States. Let us next consider certain essentials in planning for one of these modern houses.

BIBLIOGRAPHY

A further knowledge of the "Evolution of the House" and the "Development of the American House" may be obtained by reference to the following:

The Habitations of Man in All Ages. Viollet LeDuc.
L'Habitation Humane. Garnier and Amman.
Prehistoric America. Nadaillac.

American Renaissance ($4.00). Joy Wheeler Dow.
Early Connecticut Houses ($1.00). Isham and Brown.
Homes in City and Country ($2.00). Sturgis, Root, Price, Mitchell, Parsons and Linn.
Stately Homes in America ($7.50). Desmond and Croly.

Note.—Any of the above books will be purchased and forwarded on receipt of the price given.

TEST QUESTIONS

The following questions constitute the "written recitation" which the regular members of the A. S. H. E. answer in writing and send in for the correction and comment of the instructor. They are intended to emphasize and fix in the memory the most important points in the lesson.

THE HOUSE

Its Plan, Decoration and Care

PART I

Read Carefully. Place your name and address on the first sheet of the test. Use a light grade of paper and write on one side of the sheet only. *Do not copy answers from the lesson paper.* Use your own words, so that your instructor may know that you understand the subject. Read the lesson paper a number of times before attempting to answer the questions.

1. What interest or value has the "evolution of the house" for you?
2. Name some of the types of early human habitations. What purposes are they supposed to have served?
3. Show how the environment influences the character of the dwelling place.
4. Explain the statement—The history of a nation may be read in its architecture.
5. What do you learn from a study of the Greek and Roman houses about their *family* life?
6. Mention some advantages of Japanese houses.
7. What conditions and influences affected the development of the American house? How did the Northern houses differ from those in the South?

8. Trace briefly the development of the house from the log cabin to the houses of our grandparents.
9. What good points had the so-called Colonial houses? In what were they lacking?
10. Describe some house in your neighborhood that exemplifies the deficiencies of the transitional period of American architecture.

NOTE.—After completing the test sign your full name.

A House-Blessing

The beauty of the house is order & the blessing of the house is contentment & the glory of the house is hospitality & the crown of the house is godliness

A MODERN DESIGN FROM OLD ENGLISH AND DUTCH FARM HOUSE MOTIVES.

By Wheeler Dow, Architect.

THE HOUSE

Its Plan, Decoration and Care

PART II

THE MODERN HOUSE

While the subject is "The House," it is almost impossible to separate it in thought from the home for which it stands. We all appreciate that the house is not the home, as the body is not the spirit, but as the body serves as the means of expression for the spirit, so in the houses we build and furnish we show our appreciation of beauty or the lack of it. We give, quite unconsciously perhaps, our definition of home.

The House and The Home

All this thought and care then is to be expended upon the house, not only that it may be a comfortable and convenient workshop for home industries, but also a place in which child life may develop among artistic and beautiful surroundings, and that it shall at the same time serve as a place of rest and inspiration for the older members of the family.

There should, then, be a very definite idea in the mind of the owner of the amount of money he wishes to expend and the kind of family life he wishes to maintain in this house. It is to be built for his family, not his neighbors. The real comfort and convenience of the family are not to be sacrificed to display for the chance guest. Comfort may demand that the expense

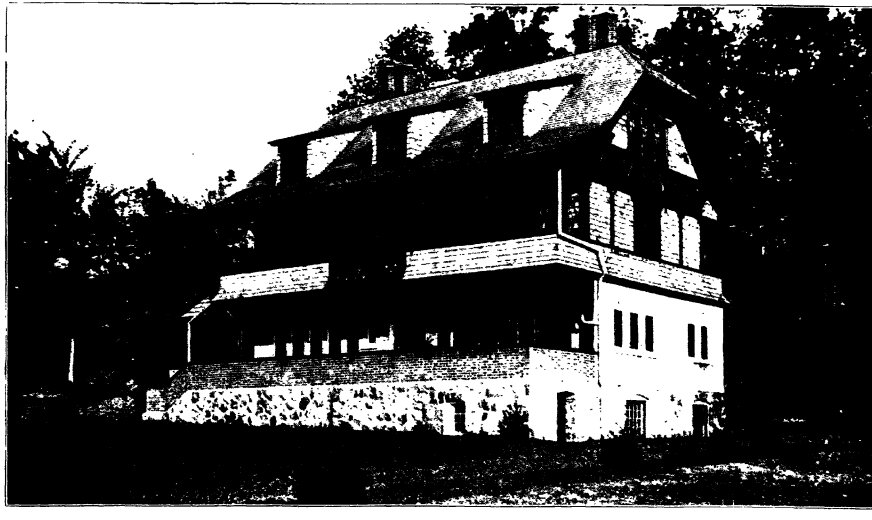
of the parlor mantel be put into the kitchen sink. Essentials, not fancy work, are to be considered.

The Site

The selection of a suitable site is one of the first considerations. To be sure it is quite probable that to the vast majority of home makers the opportunity for choice in the details of location and construction may not be given; but this paper is written from the standpoint of the freedom of choice in the belief that it is better to strive for ideal conditions than to omit them from life's program.

Where then shall the new house be put? On the hill or in the valley? In the city or in the country? The answer to these questions will vary according to the tastes of the different owners, but in each case certain questions should be very carefully considered in choosing the location of the house. The character of the soil; the natural slope of the land; the direction of the prevailing winds; the possibilities of drainage; the character of the surroundings; the kind of neighbors one is likely to have.

In most regions a southern or eastern exposure allows the best distribution of sunlight in the house. There may be the temptation in the crowded city to use the "made ground" before nature's agencies has had time to make it fit for human habitation; and, in the country, the site of the barn, regardless of the drainage may determine the location of the house on the basis of saving steps for the men of the family.



MODERN DEVELOPMENT OF A SWISS CHALET OF THE EIGHTEENTH CENTURY.

Joy Wheeler Dow, Architect.

A GOOD EXAMPLE OF A QUEEN-ANNE HOUSE.

The Outlook

Since so much of some people's time must of necessity be spent inside the house some real thought and care ought to be given to securing an outlook that shall yield to the occupants of the house as much of the beauty of the earth and air and sky as possible. A slight change in the position of even one window may bring to the dwellers for all time a picture of hill and dale with forest and stream that shall be a perennial source of pleasure.

Due consideration having been given to securing pure air, sunlight, dryness, and the various elements included in the term "agreeable surroundings," the form of construction and kind of materials are to be considered.

Style of House

Shall the new house be of wood, brick, or stone? Queen Ann, Gothic, or Old Colonial style? Here again much depends upon individual taste and the materials that can be obtained at least expense. Stone houses, for example, are practically debarred from some localities because of the expense of transportation which must be added to the cost of the stone; but in any case the construction must be adapted to the location. A stone house in a treeless, stoneless, prairie region, looks like an intruder in the landscape. It needs the hills and rocks for its setting. A low, rambling house, if it crown the brow of a hill, lends itself to the landscape much better than the high narrow one which gives somewhat the impression of a sign board. Again,

an Old Colonial house requires space for its proper setting. Adaptation and appropriateness are important elements in deciding the materials and construction of the new house.

HOUSE PLANNING

We are now to consider this subject in detail. The problems of domestic architecture are complex not simple. Its elements are numerous and varied. Ecclesiastical architecture has fewer difficulties to contend with than domestic. A church is built for a specific purpose, a dwelling house stands for a dozen interests, some of them apparently conflicting. It must be at the same time a workshop and a place of rest. In it provision must be made for the sick and the well, the young and the old, for sleeping, eating, and cooking, as well as for the entertainment of guests.

A Complex Problem

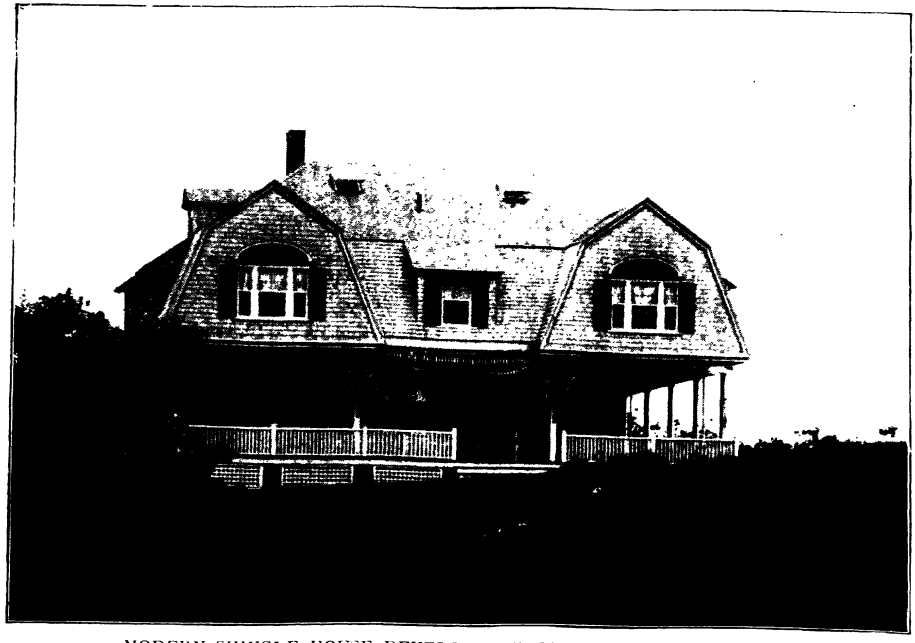
It requires skill of a high order in more ways than one to plan a successful house. A house plan is to be regarded as successful only when it meets the requirements for comfort and convenience of the particular family for which it is intended. It is evident then that house plans should not grow, like mushrooms, in a night but should be given ample time for development.

The Architect

The architect should be made familiar in so far as practicable with the personal preferences of the family in order that he may the better plan for their comfort.

MODERN COUNTRY HOUSE DEVELOPED FROM NEW ENGLAND COLONIAL STYLE

Frank Chouteau Brown, Architect, Boston



MODERN SHINGLE HOUSE DEVELOPED FROM GAMBREL ROOF IDEA

It is not for the architect to express the personality of the owner, but to help the home maker to do so. Six months or a year is not too long a period in which to consider the plans for the new house. In the meantime it is well for the family to collect as many concrete examples as possible of the things that seem to them desirable in the new home.

The sight of the real may often do away utterly with an ideal that had been cherished for sometime. Having collected and considered these various ideas it is well to formulate some method of procedure, to make some analysis of house plans, an outline, if you please, of essentials and non-essentials.

Division of Space

However much house plans may differ in details it is evident that the whole space enclosed by the four walls must serve at least two purposes; one part of it will serve as a place to rest, work, or sleep in; and another portion must serve as a means of communication. This fact serves as a basis for the division of the entire space into rooms and thoroughfares. This first division is of great importance. The comfort and convenience of many a house has been forever destroyed by the fact that the thoroughfares were improperly located, or in wrong proportion to the size of the house, and the cost of heating has been materially increased by a wrong distribution of floor space.

We all know of houses in which the distance from the front door to the kitchen is so great that the time

and energy used in answering the front door bell leaves little of either for anything else, and other houses where wide drafty halls and open stairways take the heat from the small rooms and leave the occupants shivering before the grate.

The manufacturer constructs his "plant" so as to save time and labor for his workmen. Ought not the same care to be given to the construction of his house?

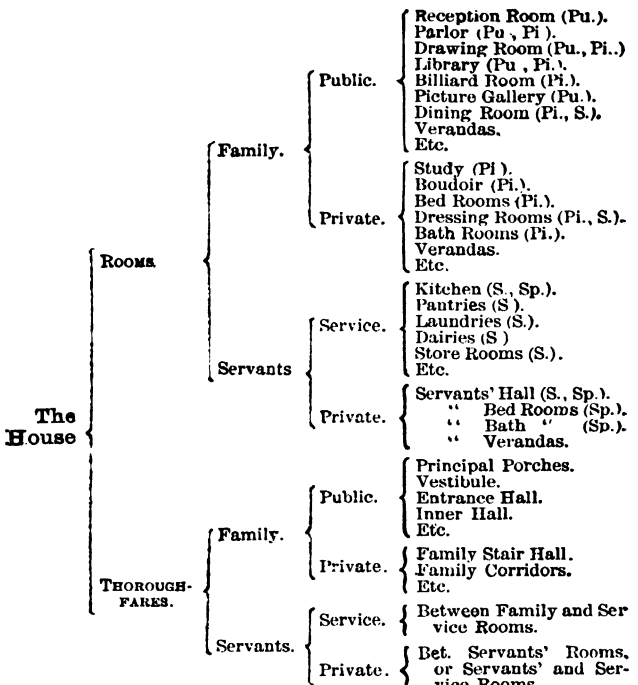
The space and money expended in passage ways beyond that required for comfort and convenience adds to the expense in building and later in the care and furnishing without yielding an adequate equivalent. Both rooms and thoroughfares admit of classification. The rooms may be divided as those intended (1) for the use of the family, (2) for the use of the servants.

Yet another division may be made of the rooms. In every home there are rooms set apart for family use, for the entrance of the friend or stranger, and there are other rooms for the private use of the individual members of the family.

Thoroughfares

The thoroughfares, too, may be classified as those intended for the family or for the servants and the family ones may be intended for public or private use; the servants' thoroughfares may be private or service, that is, used by servants in performance of their duties.

We give, then, as most suggestive and helpful the "analysis of the house plan" outlined by Osborne in his little book on house planning:



NOTE.—Letters in brackets indicate the proper thoroughfares upon which the room should be found; where two thoroughfares are indicated the room may or should be upon both; Pu, public family; Pi., private family; S., service; Sp., servants' private thoroughfares.

It is to be hoped that the statement about the difficulties of house-planning will not discourage anyone

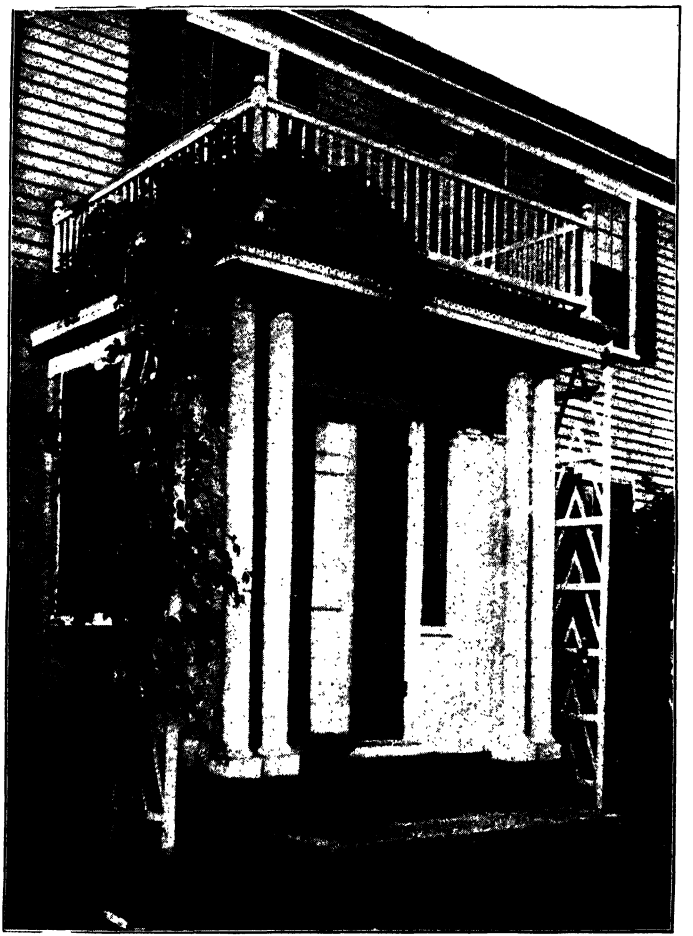
from undertaking it. Women especially should learn to express on paper the mental picture they have of the house that seems to them comfortable and convenient. At the same time they learn to understand and to think in the terms of the architect and so to interpret his plans. Very many disappointments about the "new house" are due to the fact that the housekeeper "did not understand from the plan that it was going to be that way." Some bedrooms are made with no desirable place in them for the bed because they were considered as rooms in the abstract without thinking of their particular use and the furniture which would be required.

Use of Cross-Section Paper

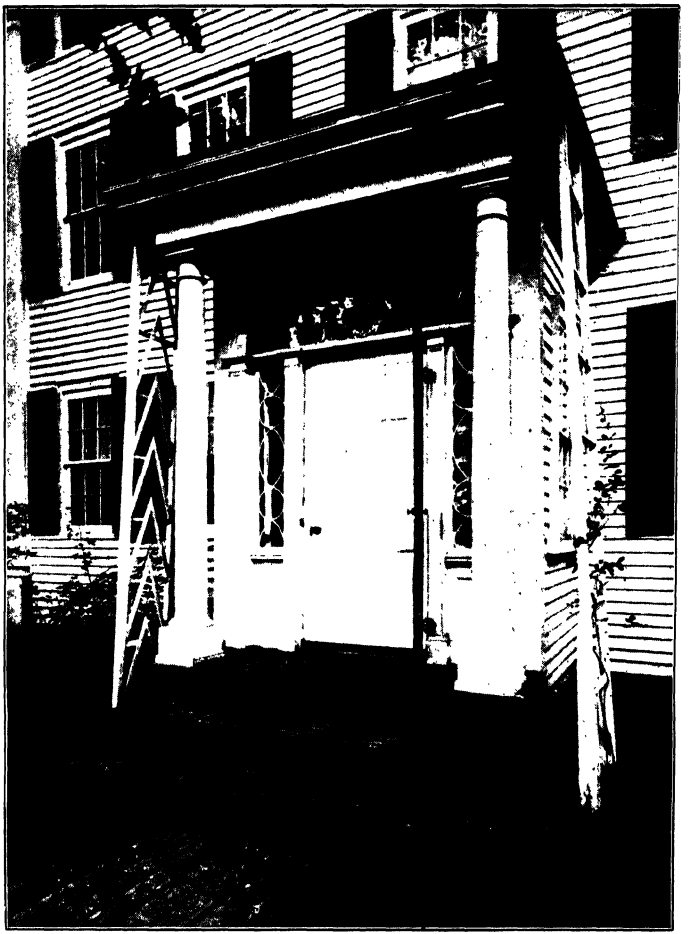
House-planning if entered into in the right spirit, can furnish to the family quite as much interest and more profit than a game of cards. A good pencil, a ruler, an eraser, some cross-section paper and a problem are all that one needs to begin the game. The spaces in the paper, usually one-eighth inch, can stand for a foot and thus aid to accuracy and proportion of the several parts. Or the engineering paper in which the spaces are smaller may be used.

ENTRANCES

It is perhaps simpler to make the entrance the chief factor in the first planning, since it is such an important factor in all house plans. Quite unconsciously our impression of the house is greatly influenced by our

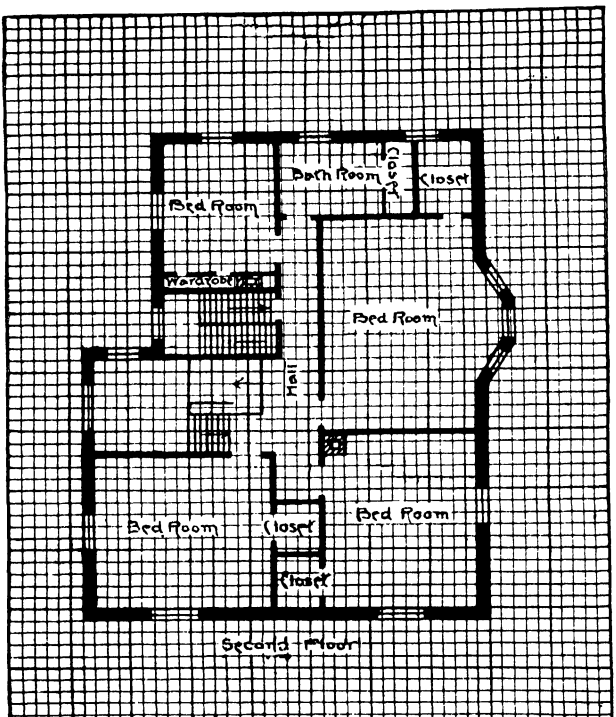


A SIMPLE COLONIAL ENTRANCE
Photograph by E. Q. Sylvester, Boston



OLD COLONIAL ENTRANCE. NORWALL, MASS.

Leaded Glass Top and Side Lights



Plan of a House Showing the Use of Cross-Section Paper. Each Small Square Equals One Foot.

ideas about the front entrance. There are entrances that repel, that invite, that show the owner's love of display, that leave the visitor in doubt because there are apparently three front doors.

Essentials

What then are the essentials in a front entrance? First, it should be so placed as to leave no doubt that it is the principal entrance. To that end it should be easily accessible and have some distinctive character. It is a source of considerable profit and diversion to study the front entrances of the dwellings on a particular street to see the character or lack of it which they convey to the passer-by.

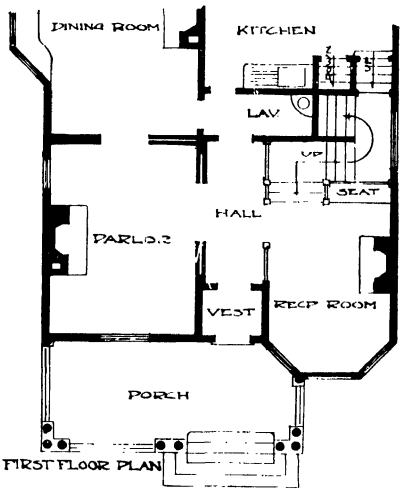
Simplest Entrance

Let us consider the different types of entrances. The first, simplest, and least desirable is that in which the caller steps directly from a stone or a plank into one of the principal rooms of the house.

There are many disadvantages about such an arrangement. Whatever of cold or heat or storm is on the outside is taken directly within to the living room. In winter the frequent admission of these blasts of cold air increases the expense of heating the house. It also means additional labor for the housekeeper because of the snow and dirt that are brought into the living room. The addition of even a small porch on the outside large enough to hold a mat on which the muddy boots can be wiped, and a roof over the door will add not only to the appearance of the house, but afford much protection to the front door.

Porch and Reception Hall Entrance

Another form of entrance consists of porch and reception hall with the stairs leading from it. This form is sometimes used to economize space; that is, to make the hall serve the purpose of a reception room.

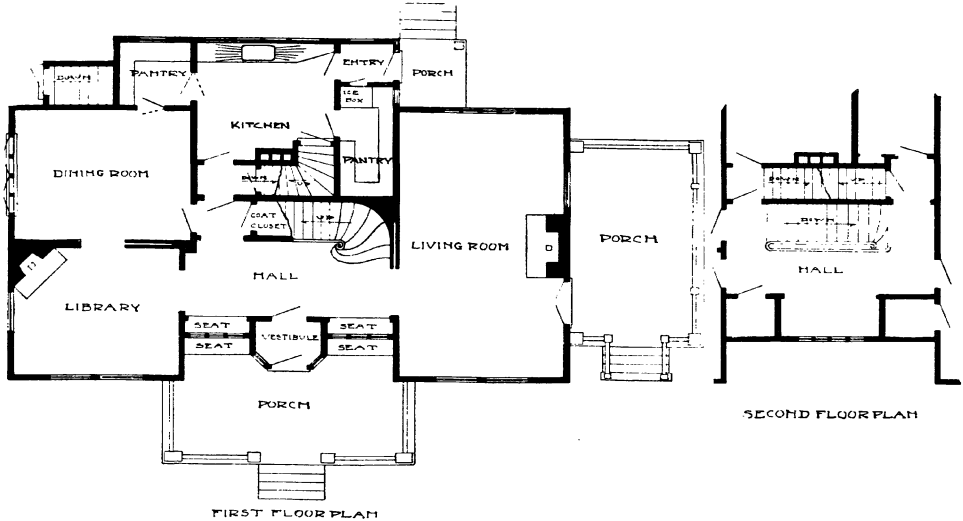


PLAN No. 1 Shows Reception Room so Arranged as to Avoid Drafts and to Give Space for Chairs. Combination Stairs.
Scale $\frac{1}{16}$ inch=1 foot.*

A fireplace adds to the comfort and attractiveness of this hall. Care must be exercised as to the relative position of the doors, fireplace and stairway or the room may be a drafty place. With the proper precautions it can be a useful and attractive room. This plan is improved by making a vestibule of part of the hall. (See Plan No. 1.)

In this plan the danger of drafts is lessened by the fact that so large a part of the reception room is be-

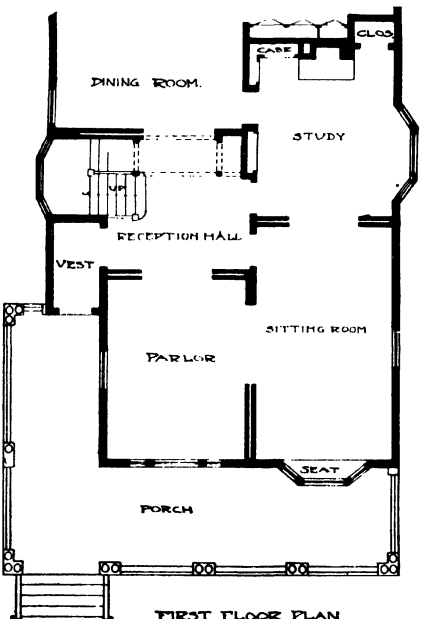
* In all of the house plans shown one-sixteenth of an inch in the drawing represents one foot in the house.



PLAN No. 2. One Type of Central Hall. Large Porch on the East. House Faces South. Notice Position of Ice Box. An Attractive Upstairs Hall. Scale $\frac{1}{16}$ inch = 1 foot.

PHOTOGRAPH OF THE HOUSE GIVEN AS PLAN No. 2.
View from the Southeast. Cost about $5,000 to $5,500, Depending Upon Finish and Local Conditions.

ANOTHER VIEW OF THE EXTERIOR OF HOUSE NO. 2.



PLAN No. 3. Shielded Entrance at North Side. House Facing West.

yond the opening into the hall and also removed from the staircase.

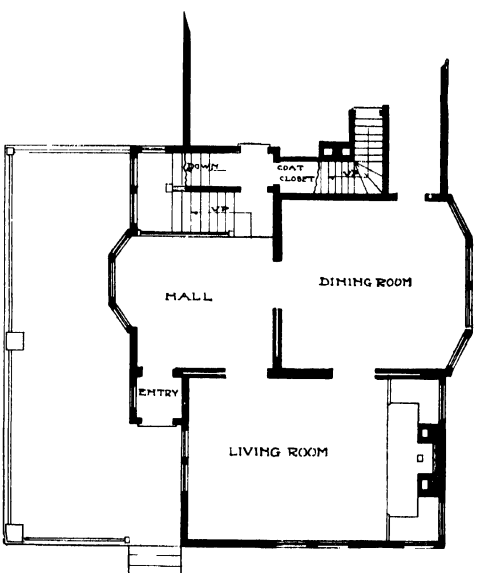
Porch and Vestibule Entrance

In yet another type of house the entrance consists of three parts, (1) porch, (2) vestibule, (3) entrance hall. This entrance may be placed in the middle of the house with rooms on either side. (See Plan No. 2.) Or, if there be a narrow lot or a west exposure, in which case it is desirable to shield the front en-

Side Porch Entrance

trance, it may begin with a porch which is on the front and extends to the side, opening into a vestibule which leads into a hall. (See Plan No. 3.)

In this plan, No. 3, the porch shuts some of the sun from the sitting room which has also a southern exposure. The entrance is shielded both by the porch and by the projecting parlor.



FIRST FLOOR PLAN

PLAN No. 4. Northern Entrance Protected by Porch and Projecting Room. West Dining Room Not so Desirable. Fine Porch on the East.

PHOTOGRAPH OF HOUSE SHOWN IN PLAN No. 4.
Taken from the Northeast. Cost from $4,500 to $5,000.

Another type of entrance at the side is shown in Plan No. 4. There is no porch on the front here and the reception hall with its bay window is quite an attractive room.

Vestibule Desirable

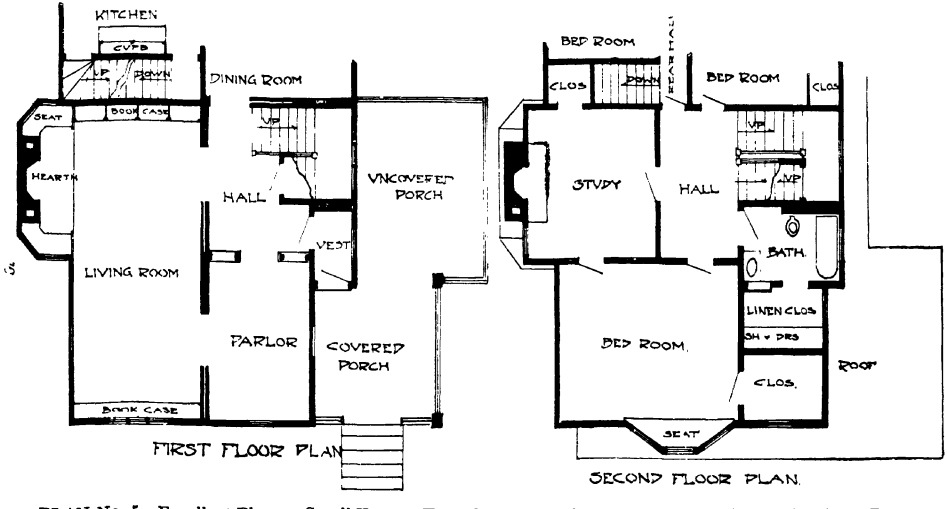
In any case the vestibule proves a most desirable addition. It makes the transition from the outside to the inside more gradual, prevents the direct passage of the cold air into the body of the house, provides a place for wraps, overshoes, umbrellas, and contributes to the comfort of both hostess and caller.

Small Hall

Plan No. 5. This illustration shows a very convenient and comfortable arrangement of floor space in a rather small house. In this plan a small amount of space used as hall gives convenient access to the reception room, living room, kitchen and stairs. The reception room is large enough for the formal caller, while the living room is a very attractive and well lighted room. The second story shows a good arrangement.

Side Entrance

No mention has been made of the porte-cochere or side entrance, which is so desirable in country or suburban houses. The connection is sometimes made by a side porch which connects with the front one and the guests pass in at the front door. Often this is not desirable as it results sometimes in bringing the guests into the midst of a company when no opportunity has been given them to put aside their wraps. It is better if the side porch can connect



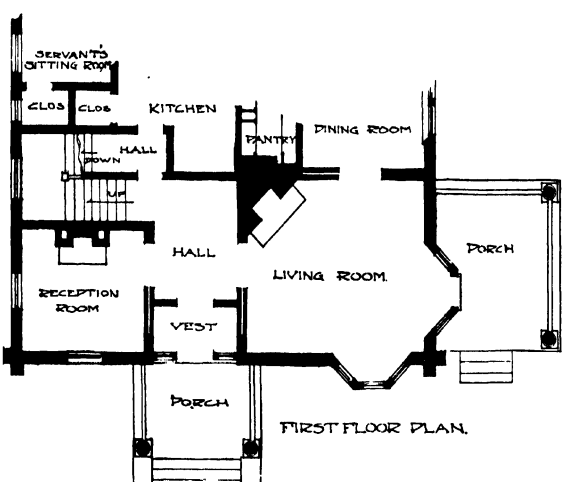
PLAN No. 5. Excellent Plan for Small House. Faces South. Good Arrangement of Windows in Living Room Library and Living Room Combined. Study Upstairs. Scale $\frac{1}{8}$ inch=1 foot.

VIEW OF HOUSE No. 5 FROM THE SOUTHEAST.
Cost about $3.500 to $4,000.

directly with a side hall and thus admit the guests to the stairs without passing among the company.

Position of Porches

It is well to remember what seems to be a rather recent development in house-planning; viz.: that the best porch for family use is not necessarily the front porch. A southerly exposure, which for many reasons is desirable, does not give a pleasant afternoon front porch; but if a porch be placed on the east side, the family may enjoy shade and freedom from the publicity of the front entrance at the same time. (See Plan No. 2.) A good porch, someone has said, "is the most



PLAN No. 6. Family Porch on the East of the Living Room. Only One Staircase, but Well Placed to Serve Double Purpose. Servants' Sitting Room.

valuable room in the house." It is certainly a bit of space that yields as much comfort as any room, now that we have learned to have roomy, comfortable porches and to live on them. Plan No. 6 shows a small entrance porch with a comfortable porch for the family on the east connected with the living room.

THE FARM HOUSE

Conditions on the Farm

The usual distribution of the first floor space into kitchen, dining room, living room, and parlor or reception room with hall and vestibule which has been suggested in these plans has been worked out in many attractive ways for the city or village house, but is not so well developed for the average farm house. The necessities for farm dwellings differ somewhat from town houses. For example, there is little formal calling on the farm, but frequent short calls that have more or less of a business character. It is not desirable to bring these strangers into the privacy of the family life and apparently not suitable to receive them in a formal reception room. It seems as if a reception hall with desk, fireplace and one or two easy chairs, with the daily paper or new magazine might serve a useful purpose here.

Men's Sitting Room

Another room that is much needed in some farm houses is a sitting room for the men who work for the family. It should be on the first floor, easily accessible from the side or rear of the house, and have

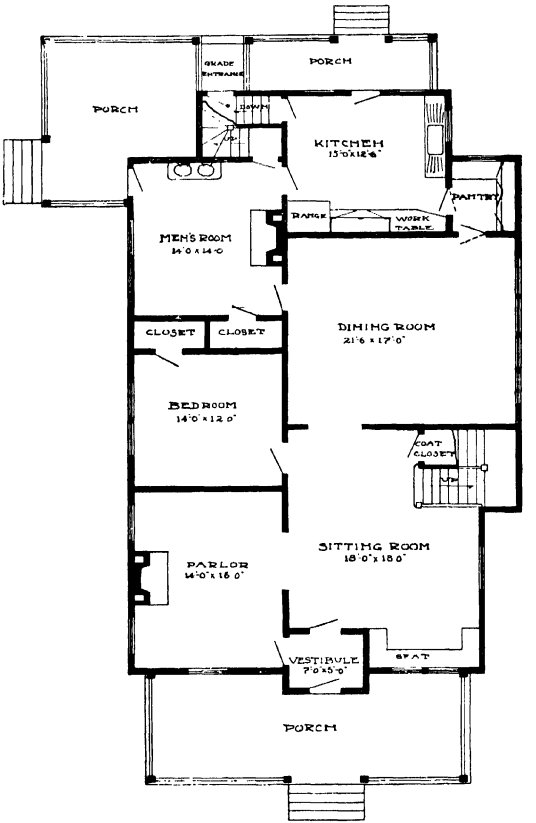
in it or near it a lavatory in order that the workers may be able to make themselves clean and comfortable before they pass to the dining room.

Large Dining Room

Another requirement of the average farm house is a large dining room to accommodate the large number of men that are needed on threshing and wood sawing days. It is quite desirable also that the dining room shall have an outside door, that it may not be necessary for workmen to pass through the kitchen and pantries or sitting room to reach the dining room.

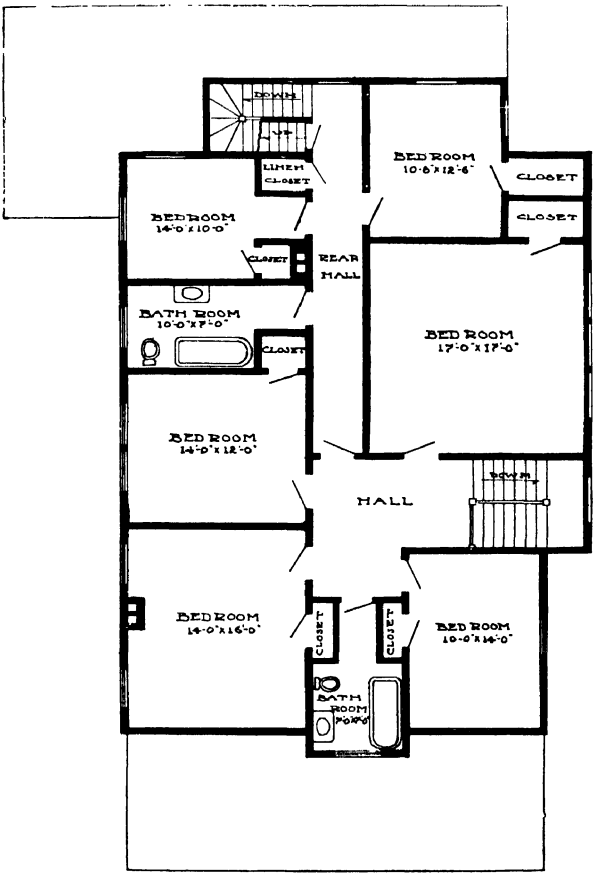
Plan No. 7, shows a plan for a farm house that has many desirable qualities. The men's sitting room is well placed. The bedrooms for the "help" are separated from the family bedrooms as is also the bathroom. A bedroom downstairs is often a great convenience, particularly if the mother does her own work and has little children. A great lack in most farm houses is water brought into the kitchen. It seems to be easy enough to have the wind pump and the pipes to carry the water into the barn, but "so much trouble" to put it into the kitchen. In no place is the need greater for water in the kitchen and for a good bath room than on the farm.

The plan for a farm house is capable of many variations. The outline of the parlor may be made less rectangular by a change in the windows. If the men's room is not needed by the "help" as a sitting room all the year it will make a good children's room.



FIRST FLOOR PLAN

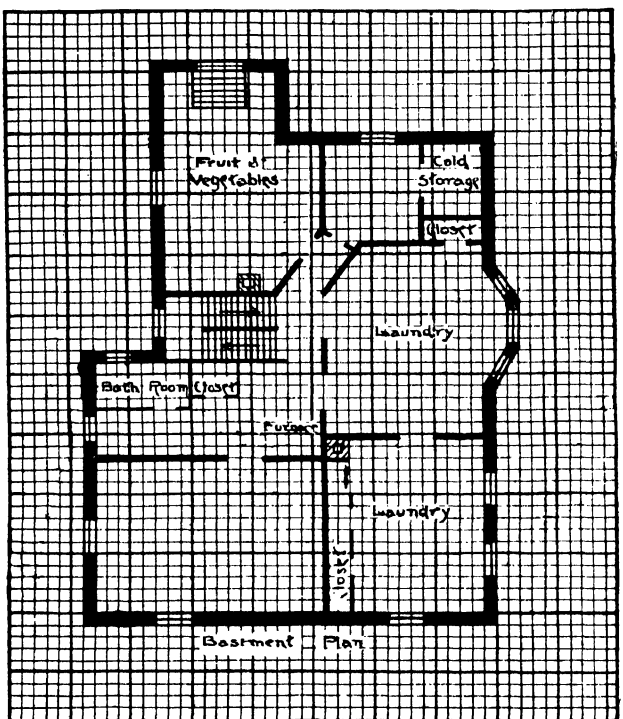
PLAN No. 7. Farm House. Facing South. Family Bedroom and "Help" Sitting Room.



SECOND FLOOR PLAN

PLAN No. 7. Farm House. Separation of Family and Servants' Rooms. Good Arrangement of Rear Stairs.

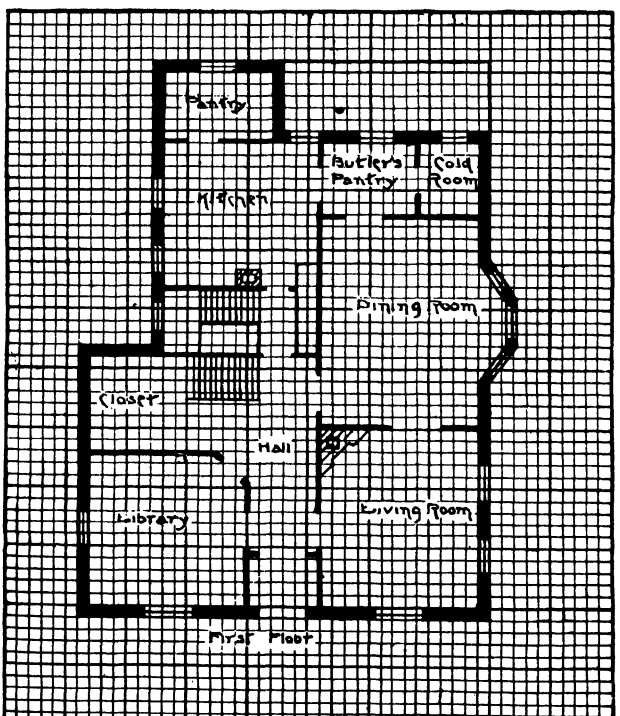
Most farmers would probably not be willing to put in two bathrooms. In that case the space given to the family bathroom might be used as a sewing room. The



PLAN No. 8. Basement Plan of a Farm House Having Bath Room in the Cellar.

arrangement of the back stairs makes it possible to pass directly to the attic from the first floor.

The dining room is large and can be entered from



PLAN No. 8. First Floor. Bay Window in the Dining Room, and Fireplace in Living Room. (See Page 59 for Second Floor Plan).

the men's room. The essentials in the kitchen are well located.

Farmer's Plan for a Farm House

Plan No. 8 is a student's plan for a farm house. It shows the use of cross-section paper in making house plans, each small square representing a foot. The maker of this plan is a farmer's son. It seemed to him desirable to have the place for the men to clean up in the basement. The cold storage room has in it a place for the storage of ice for summer use. The stairs from the basement lead directly into the rear hall, which gives easy access to kitchen and dining room. A bay window adds attractiveness to the dining room and a fire-place gives cheer in the living room. If it were desirable the library might serve as the office and reception room, or the room could be used as a downstairs bedroom if one were needed.

If the house be heated by a furnace, a hall is very desirable; if it be not so heated a hall seems a cold, unattractive place in winter.

These two types of house plans seem fairly well suited to the needs of farm life.

ROOMS

The Hall

The entrances and halls considered indicate a few of the ways in which the thoroughfares of the lower floor may be treated in the distribution of the floor space. The width of the hall will depend upon the size of the house, the location of the hall and the pur-

pose it is intended to serve. Seven and one-half or eight feet is a minimum width for a central hall. The lighting of it too is an important factor. It is usually accomplished by making a part of the entrance door of glass, by transom and by glass at the sides of the door. Artistic and pleasing effects are often thus produced.

It may be well now to consider some of the characteristics of the rooms usually found on the first floor. If one classifies the rooms of a house as rooms to live in, to work in, and to sleep in, those rooms which belong to the first two classes will be found most often on the first floor.

Proportion

It has been said that proportion is the good breeding of architecture and it is one element never to be forgotten in house construction or decoration. The thoroughfares are to have their due proportion of space, no more; no less; the separate rooms are to have their proportion of space, determined by the purposes which they are to serve. For example, a large parlor or reception room and a small living room would seem to indicate that the comfort of the family was to be sacrificed to display for the formal caller. Each room is to be considered not only in reference to its specified purpose but in its relation to the other rooms, and to the thoroughfares.

The Parlor. Much is said in these days about "the passing of the parlor," and great emphasis is put upon

the living room. A closer study would seem to indicate that it was not the room that was passing away, but that its purpose was given a new interpretation.

The term parlor to many people suggests a square room with a few pieces of hair cloth furniture set at regular distances about the wall, a "center table" in the center of the room and on it a glass case containing wax flowers and an album; the walls decorated with the family portraits, and the whole having a generally unlivable air and so quite properly reserved for funerals and weddings.

Reception Room

Happily such parlors are "passing" and some people, because of the ridicule attached to them, are almost afraid to own that they possess a parlor. The fact remains, however, that that ridiculed parlor stood for two things which every well-regulated home should have,—a room that is kept in order, and a place where the formal caller may be received without intruding into the privacy of the family life. The rooms in which the family live and work are not always and should not be expected to be ready for the reception of the passing stranger. So, for the comfort of all it is better that there should be a room near the principal entrance and not far from the front stairs for the reception room or parlor. To avoid the "stiffness" sometimes associated with a square room its outline may be changed by the introduction of a bay window or a grate. The haircloth furniture and family portraits also may be

eliminated. It is desirable too that this room have more than one door of exit. In case a company is to be entertained in the house "circulation" is much more easily accomplished if one may pass from the parlor to either the hall or library or sitting room.

Living Room

The Living Room. In this room the family life is to center. Provision is to be made in it for the needs of the various members. It should then have, if possible, the best view the situation affords, plenty of sunlight, and a view of the setting sun is desirable. Its outline too should be distinctly varied either by windows or fire-place so as to make it possible for groups to gather. Cupboards for toys, fancy work, or a few books, and window seats which open—all help to meet the varying needs of family life.

This room too should open on the principal thoroughfare. It is desirable that it be the largest room of the house, oblong rather than square; a room eighteen by thirty or twenty by thirty feet makes a good-sized living room.

The Dining Room. This is one of the most important rooms in the house. It is possibly the one place where all the family gather daily. Cheer and brightness are associated with it and its construction should aid to both. First, as to size: It should be wide enough to allow the easy passage about it that is required in service. A minimum of eleven by thirteen and one-half feet and a maximum of seventeen by twenty-two

feet seem to meet the requirements of ordinary houses. A sideboard or china closet is almost an essential. It is desirable to have it built in in a recess near the pantry door. If there be room for it a fireplace is a desirable addition but its location should be carefully considered. It is better at the end than at the side, as the heat of the fire may make the backs of the people at table uncomfortable.

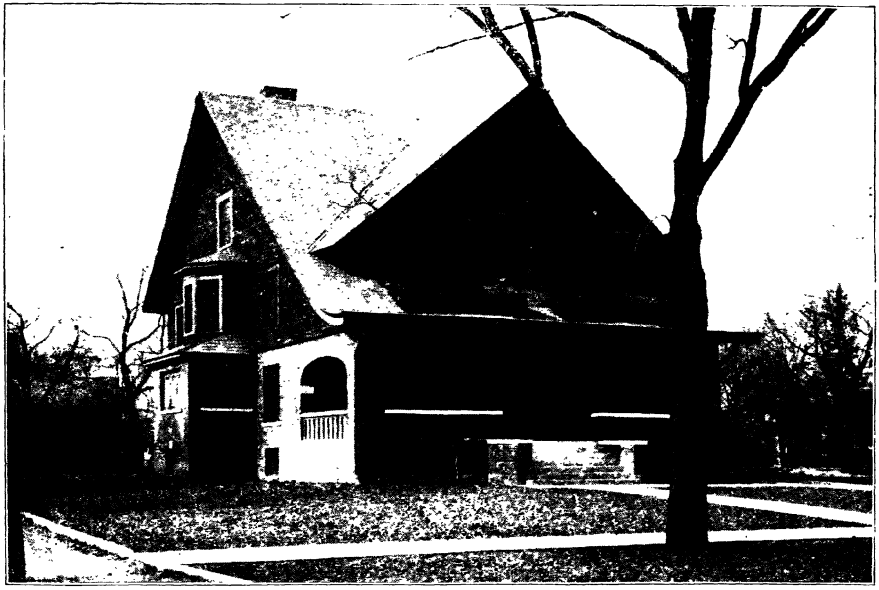
Lighting of the Dining Room

The lighting is another important consideration. If that can come from the end too, it is less likely to shine in the eyes of the people at table, or to cast a shadow over those on the other side of the table. It should not, however, be placed directly in the middle of the end, but distributed by being put near the corners of the room. A secondary light may be added by smaller or irregular windows at the side. A western exposure is not preferable for a dining room. It makes the room a rather cheerless one on a winter's morning, and in the summer, by the time the family gather for the evening meal, the rays of the setting sun are likely to interfere with their comfort. So a southerly or easterly aspect is much to be preferred.

The ...ner Route"

The communication with the kitchen should be easy, not direct, but through a small pantry. By this means the odors from the kitchen are avoided, and the two walls shut from the dining room the noise in the kitchen. The doors in the pantry should not be directly opposite, lest they afford a direct view into the kitchen

MODERN PLASTERED HOUSE
Frank Chouteau Brown, Architect



HOUSE SHOWING COMBINATION OF BRICK AND WOOD CONSTRUCTION.
In Some Localities Such Construction is but Little More Expensive Than All Wood.
White and Temple, Architects.

from the dining room. It is quite evident also that this passage from the kitchen to the dining room, called by some the "dinner route," should be distinct and separate from the family thoroughfares.

The question of the communication between the dining room and the other rooms of the house beside the kitchen is an open one. In a small house where the only rooms that can be open to guests are the parlor and dining room, it seems almost necessary to have direct communication between them. On the other hand because of the close connection of this room with the service rooms and the consequent necessity, for several hours of the day, for complete separation it is desirable not to have this direct communication.

Sliding Doors

Perhaps in this connection a mild protest may be entered against a too generous use of sliding doors between the parlor, library, living room and dining room. They may prove useful when one wishes to "open up" the house for a large company, but for daily living they certainly detract from the privacy and singleness of use for which the separate rooms were planned. In feudal times the hall was the place where the people lived, ate, worked, and slept. The introduction of separate rooms for sleeping and eating were regarded as improvements. The introduction of a distinct passage way was a still further improvement. A too generous use of sliding doors seems to convert the floor space into a large hall. Sounds and odors

then penetrate to all parts of the house. The reader in the library is apt to be disturbed by the chatting in the parlor. The odors from the dining room are wafted into the living room. It seems much more desirable to have a hall serve as a means of communication and the rooms allowed to fulfill their particular function.

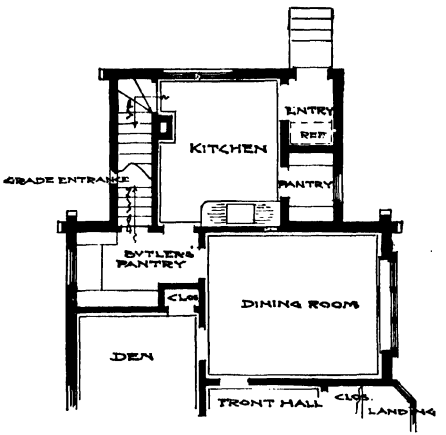
Sitting Room or Study

The Library. This term may mean a study chiefly for some one member of the family or it may be a kind of sitting room in which most of the books of the family are kept. If it is the former, the privacy and quiet which the worker seeks is often more easily obtained on the second floor.

The Kitchen. There yet remains for consideration that all important room, the kitchen; out of which issues so much that makes or mars the health and comfort of the family. A visit to the kitchen of the Deanery of Durham Cathedral helped the author to realize as never before how the purposes of the kitchen had changed in the centuries. That was an octagonal room with eight fireplaces and a stone floor. The guides explained that perhaps only two or three of the fireplaces would be used in the preparation of the daily food; that in the others were hung the quarters of beef or the pork destined for future use and preserved by the smoke which was kept beneath them.

Use of the Kitchen

The modern kitchen is not supposed to be either a store room, a laundry, or a sitting room, but it is a



FIRST FLOOR PLAN

CONVENIENT PLAN OF KITCHEN, DINING ROOM AND PANTRIES

place for the preparation of food, a workshop. For that purpose it should be well lighted, ventilated preferably by a cross draft, and of such materials as can be cleaned easily. It should be so planned that its chief articles of furniture—the range, sink, work table—should be near together and in line with the pantry, that its working space may be as compact as possible. (See Kitchen in Plan No. 7.)

Size

A room ten by twelve feet is usually sufficient for the purpose. Opinions differ greatly concerning the details of the kitchen. Some women prefer a very

small kitchen and a large pantry with provision for doing the pastry work and much of the preparation of the food other than the cooking. Others prefer a large kitchen with a space quite removed from the range for this preparation. If the woman does her own work the first plan has much to commend it, and the amount of travel is not greatly increased if the working pantry be well placed.

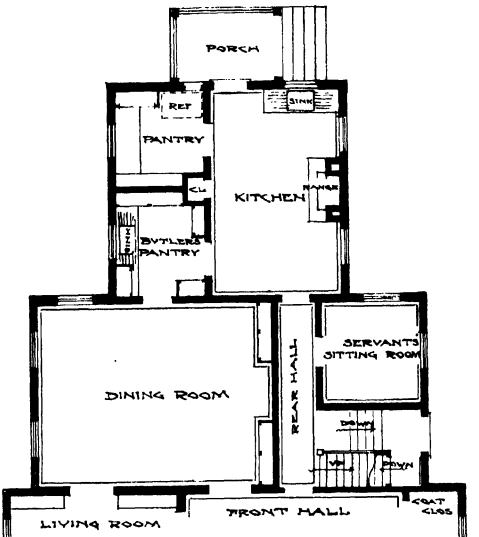
Closets

However much opinions differ as to the size of the kitchen, all women appreciate the value of closets and cupboards. It may be desirable for the cook in hotel kitchens to have his utensils hung on the walls over his work table. His interest does not lie in making as little work at possible for those who are to wash the soiled utensils and keep the room in good order. He wishes everything at hand that he may work *quickly*. In the average home the woman who cooks also cleans and it is to her interest to have as few things as possible exposed to the dust and steam of the kitchen. Utensils do not need to be exposed to be easily accessible and the care of them is greatly lessened if cupboards are abundant and roomy.

The Ice Box

The location of the ice-box is a fruitful source of annoyance in many houses. It should be so placed that it can be filled from the back porch and thus avoid the necessity of having the iceman's boots and dripping ice leave their marks in the kitchen.

See ice-box in Plan No. 2.



FIRST FLOOR PLAN

KITCHEN PLAN WITH LARGE PANTRIES.
Sink in Butler's Pantry. Refrigerator in Working Pantry.
Servants' Room.

Closets

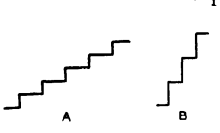
Before leaving the first floor I wish to emphasize the comfort and convenience afforded by plenty of closets in addition of those destined for kitchen uses. Beginning in the front entrance a useful piece of furniture is a box seat which may hold the rubbers. A closet under the front stairs for wraps is most desirable. Reference has already been made to their use in the living room.

We have come by a somewhat circuitous route to the second floor plan. Just at this point is where the real fun in house planning begins, when one begins to devise a means of getting to the second floor. It is said that most women plan houses without putting in any stairs, and then wonder what the architect means by the "well hole," since they understood that the "water supply was to be brought from the outside."

STAIRS

Relation of Tread to Riser

It may be well to face the difficulties squarely and to decide just what is to be expected of a stairs. First: That it shall afford an easy means of transition from the first to the second floor. The ladder of the log cabin failed at the point of ease. The winding stair is likely to have the same defect. Wherein then lies the secret of ease in stairs? The architect answers in the relation of riser to tread. A stairs in which the riser and tread bear the relation shown in figure *B*, gives one somewhat the feeling of attempting to lift himself bodily into the air. A stairs in which the tread is about double the riser, *A*, is a much more comfortable one. Authorities seem to agree that when twice the height of the riser added to once the tread equals twenty-four inches the stair will be comfortable; that means a riser of seven inches and a tread of ten.



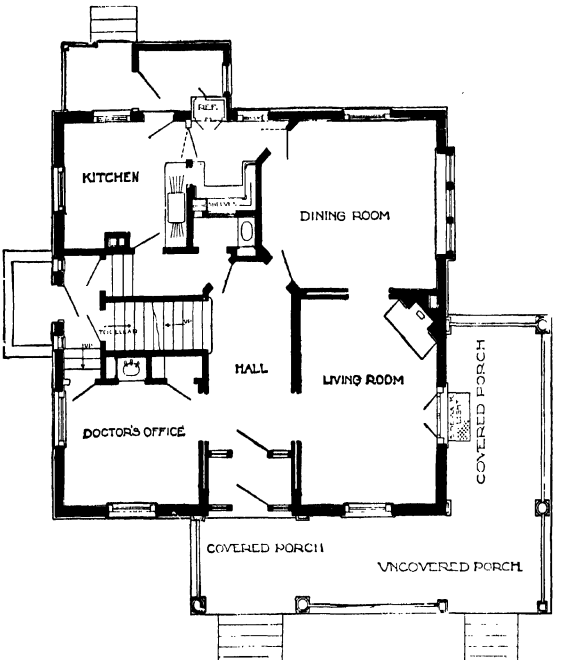
Two times seven plus ten equal fourteen plus ten equals twenty-four.

Second: It is evident that in going up stairs attention must be given to one's head as well as to one's feet, hence the necessity for the "well" or space between the floors. **Well Hole**

Again, the stairs must be of sufficient width to allow easy passage. They should not be less than three feet and six inches, while four feet is a better width. The rear staircases should be wide enough to carry up furniture and trunks, and so save the front staircases. If absolutely necessary an eight inch riser may be used in the rear stairs. Into what shall the upper stairs lead? This is an important question. The answer given by some houses would be into a narrow, box like passage way; by others, into a room. Comparatively few people seem to understand that their efforts regarding attractive hall space ought not to be limited to the first floor. It is quite as desirable to have the stairs end well.

Plans No. 2 and No. 5 show attractive hall space on the second floor.

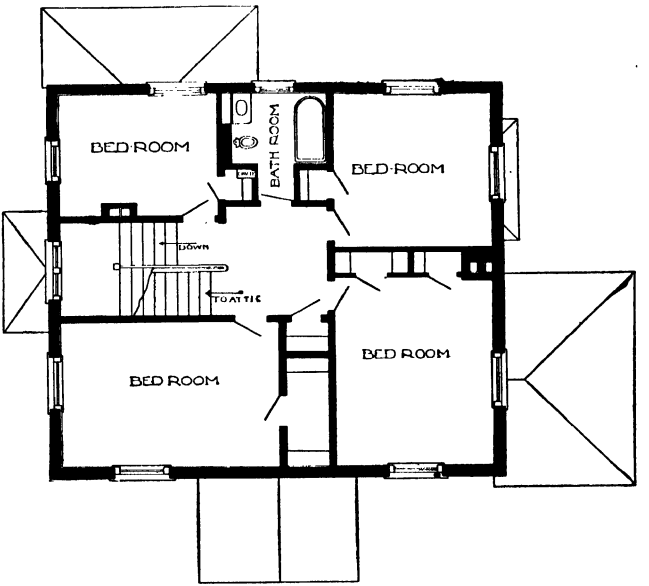
Before leaving the subject of stairs attention should be called to the various kinds of stairs in the house plans already considered. It is easy to appreciate the value of a front and back stairway as illustrated in house plans Nos. 2, 4, and 7; but in small houses it sometimes is desirable to put both the space and money **Front and Back Stair**



PLAN No. 9. An Excellent Arrangement of Rooms in a House Nearly Square in Plan. Compact Stairway. Side Entrance for Doctor's Patients. Convenient Kitchen, Pantry and Refrigerator. Note Sidewalk Light in the Covered Porch to Admit Light to the Cellar.

required for the making of the second pair of stairs to some other use. In such cases one may use either a "combination stairway," as shown in house plan No. 1, or locate the one stairway in such a place that it will be easily accessible from the front or rear of the

Combination Stairway



PLAN No. 9. Second Floor. Good Closet Room. Clothes Chute in the Bath Room. Scale $\frac{1}{8}$ inch=1 foot.
Messrs. White and Temple, Architects.

house. House plan No. 6 is a good example of that kind of a stairway. It is easily accessible from the front hall and yet so placed that one could pass up stairs from the kitchen without being noticed by any person in the reception room.

The combination stairway as shown in Figure 1, gives the privacy and separation on the first floor and saves space on the second floor.

THE REAR OF THE HOUSE SHOULD BE ATTRACTIVE.
Shows the Beginning of a Vine Covered Porch.

SECOND FLOOR PLAN

The division of floor space here into rooms and thoroughfares should receive careful attention. The rooms are likely to be used for bedrooms; possibly the family sitting room may be here. If so it should be near the front stairs, and the bath room should be accessible but somewhat removed from the front. It is very desirable to separate the bath room and the water closet.

Placing of Furniture

The surest way to be certain that the bedrooms have wall space for the furniture one expects to place in a bedroom is by representing these various articles of furniture by bits of paper at the same scale as the plan, and placing them about the room. Care should be taken about the position of the door that it be not so placed as to expose the bed whenever it is open. Light and air should be obtained by windows on two sides if possible, or by use of transoms. Ample provision should be made for closet space, at least one in each bedroom; one in the hall for the weekly supply of linen, and a store room for the bed coverings.

APARTMENTS

Nothing yet has been said about apartments or flats in which all the rooms are on one floor. The building of apartments is increasing rapidly in the large cities where land is expensive, because rents can be less for the reason that not so much must be charged for the ground rent. When hot water, heat, and janitor ser-

vice are furnished, the complications of housekeeping are lessened and as there are no stairs to climb, energy is saved in the daily routine. In the planning of apartments the most difficult problem is to obtain sufficient light and air—especially sunlight. Many of the rooms in a block of houses must, of necessity, be dark or only partially lighted—an unpleasant and unhygienic condition.

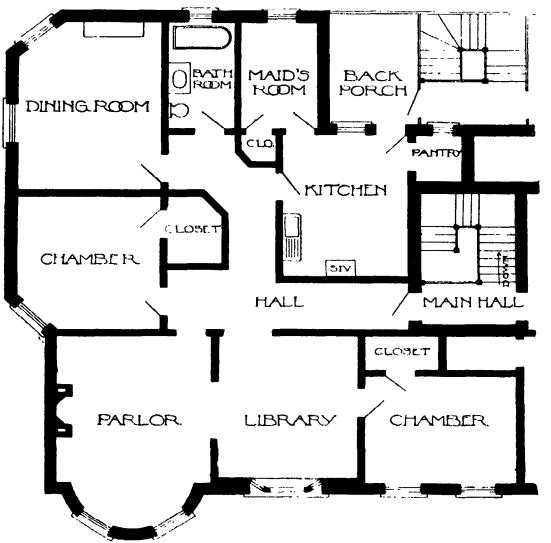
Many apartments are planned with a long, dark hall. The accompanying illustration shows an apartment in which such a hall is not present. The conveniences of a well-planned apartment are not to be gainsaid. The disadvantages are lack of privacy, an inability to have out-of-doors space, and lack of sunlight. These disadvantages are most objectionable when there are children in the family.

Essentials in House Planning

So much for the planning of the house. Whatever the style selected, the requirements of good building are great leading lines, good proportion, clear detail, and appropriate ornament. If the owner remembers this and that the structure must be adapted to location, environment, and purpose, with comfort and convenience, he is likely to have a house that is pleasing to the eye as well as convenient.

Originality

To some people originality and individuality in house planning consist in introducing an unusual window here, a strange cornice or ornament there, and an odd door at another place. As a result of this "freakishness" one finds a window which looks like the port hole



PLAN OF A FLAT WITHOUT A LONG, DARK HALL. GOOD CLOSET ROOM.

of a vessel, a gingerbread cornice and a heavy castle door all heaped together in a small house, making it look as if it had been made from an architectural scrap bag.

This quotation from "Decoration of Houses," by Codman and Wharton is one that ought to be frequently recalled. The author is discussing originality in architecture: "What is originality in art? Perhaps it is easier to define what it is *not;* and this may be

done by saying that it is never a wilful rejection of what have been accepted as the necessary laws of the various forms of art. Thus, in reasoning, originality lies not in discarding the necessary laws of thought, but in using them to express new intellectual conceptions; in poetry, originality consists not in discarding the necessary laws of rhythm, but in finding new rhythms within the limits of those laws. Most of the features of architecture that have persisted through various fluctuations of taste, owe their preservation to the fact that they have been proved by experience to be necessary; and it will be found that none of them precludes the exercise of individual taste, any more than the acceptance of the syllogism or of the laws of rhythm prevents new thinkers and poets from saying what has never been said before. * * * All good architecture and good decoration must be based on rhythm and logic. * * * To conform to a style then is to accept those rules of proportion which the artistic experience of centuries has established as the best, while within those limits allowing free scope to the individual requirements which must inevitably modify every house or room adapted to the use and convenience of its occupants."

TEST QUESTIONS

The following questions constitute the "written recitation" which the regular members of the A. S. H. E. answer in writing and send in for the correction and comment of the instructor. They are intended to emphasize and fix in the memory the most important points in the lesson.

THE HOUSE

Its Plan, Decoration and Care

PART II

Read Carefully. Place your name and address on the first sheet of the test. Use a light grade of paper and write on one side of the sheet only. *Do not copy answers from the lesson paper.* Use your own words, so that your instructor may know that you understand the subject. Read the lesson paper a number of times before attempting to answer the questions.

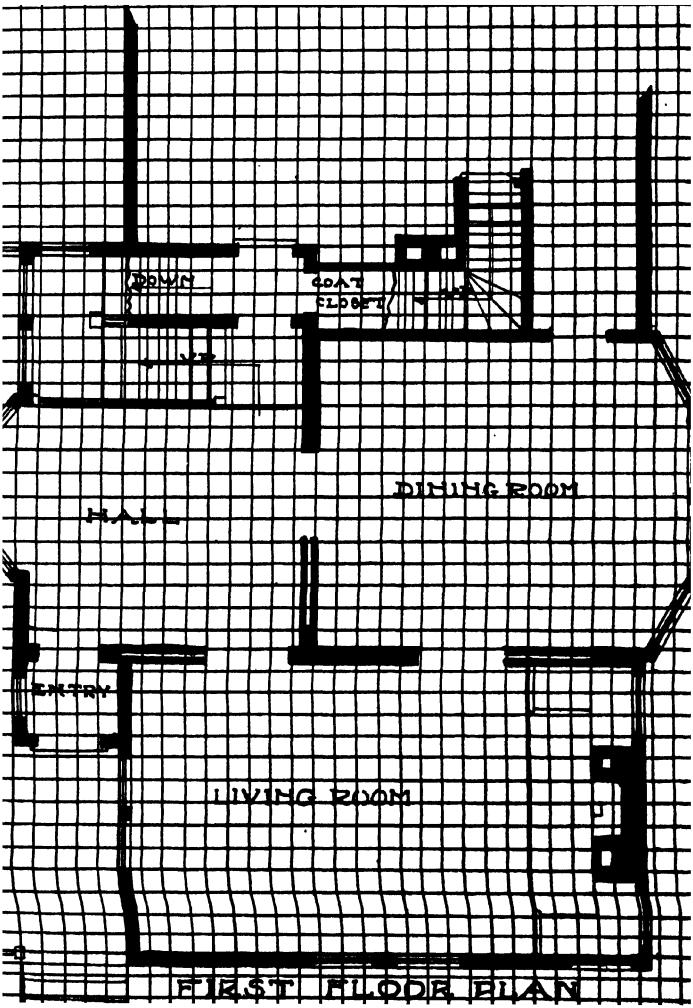
1. Name some considerations that influence in determining the (a) site of a house, (b) materials, and (c) general appearance of a house.
2. What disadvantages arise from an unwise distribution of floor space?
3. Name the different types of entrances.
4. Describe the advantages and disadvantages of a reception hall plan.
5. What are some of the special needs of farm houses?
6. Which of the nine plans illustrated do you like best? Why?
7. Give some distinctive characteristics of the (a) parlor, (b) living room, (c) dining room, (d) library, (e) chambers.

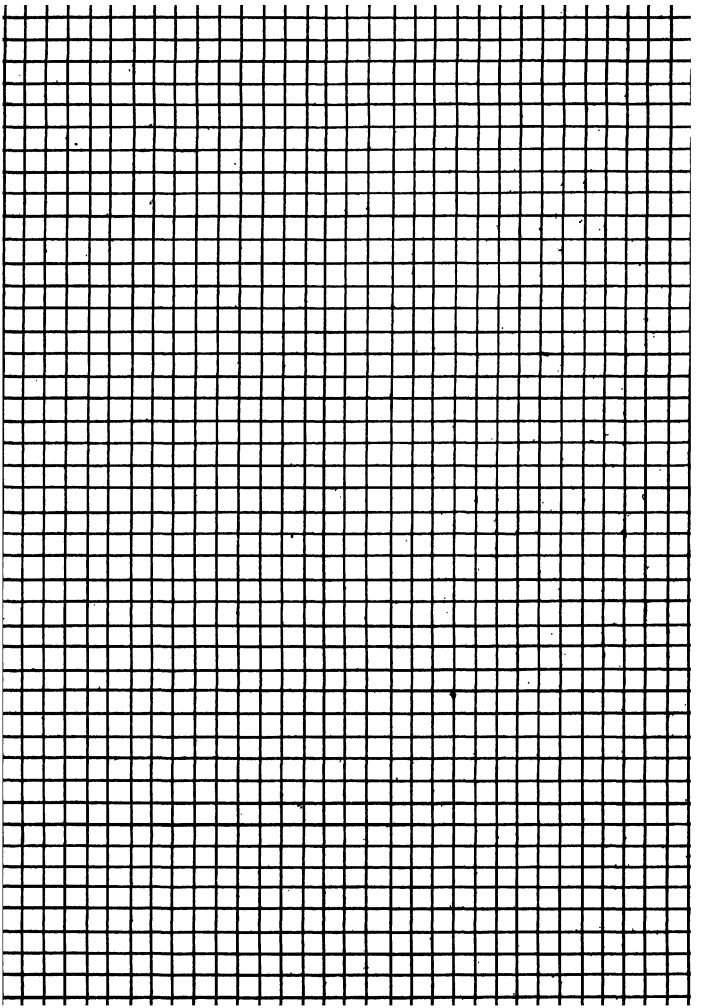
8. Which type of kitchen plans do you prefer? What are your reasons?
9. How is ease secured in stairs?
10. What are the advantages of a combination stairs?
11. Complete the plan you like best (No. 1, 3, 4, 5, or 6) for the first and second story. Make your drawing twice the size of the illustration, i. e., scale ⅛ inch=1 foot, using cross section paper.
12. Indicate on your sketch the position and size of range, sink, refrigerator, and dining room table on the first floor, and of the beds and bureaus on the second floor, determining their position by using small bits of paper as described on page 95.

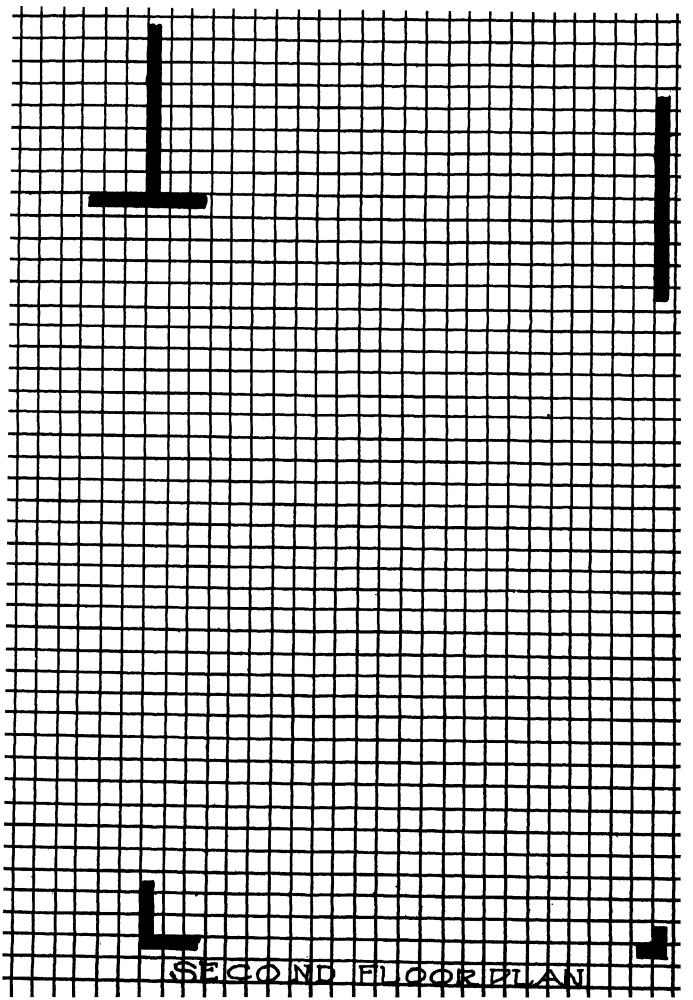
Note. After completing the test sign your full name.

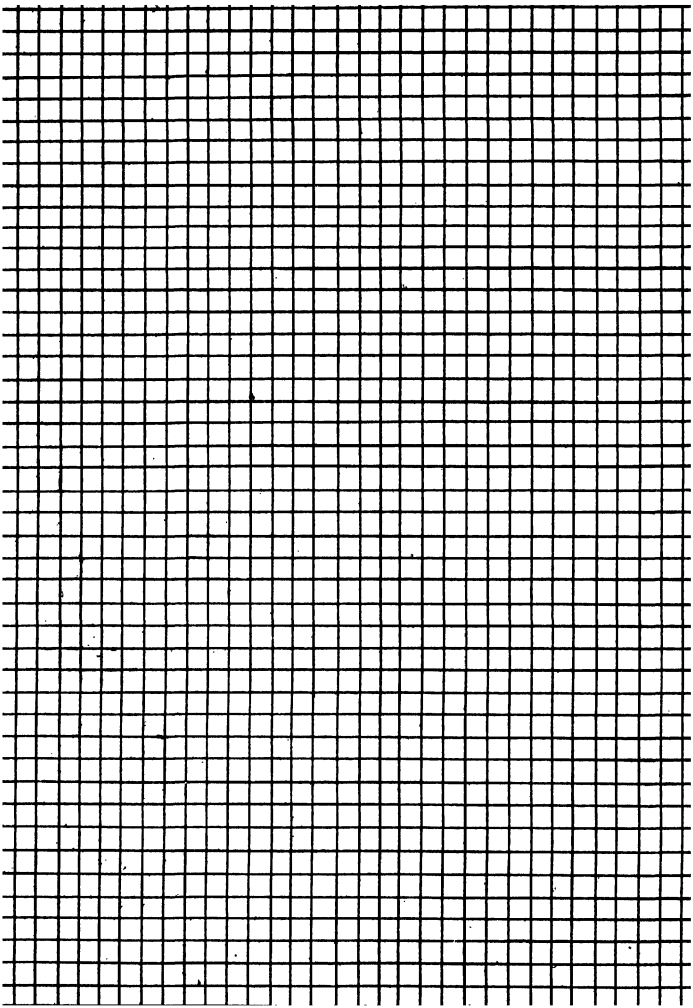
NOTE

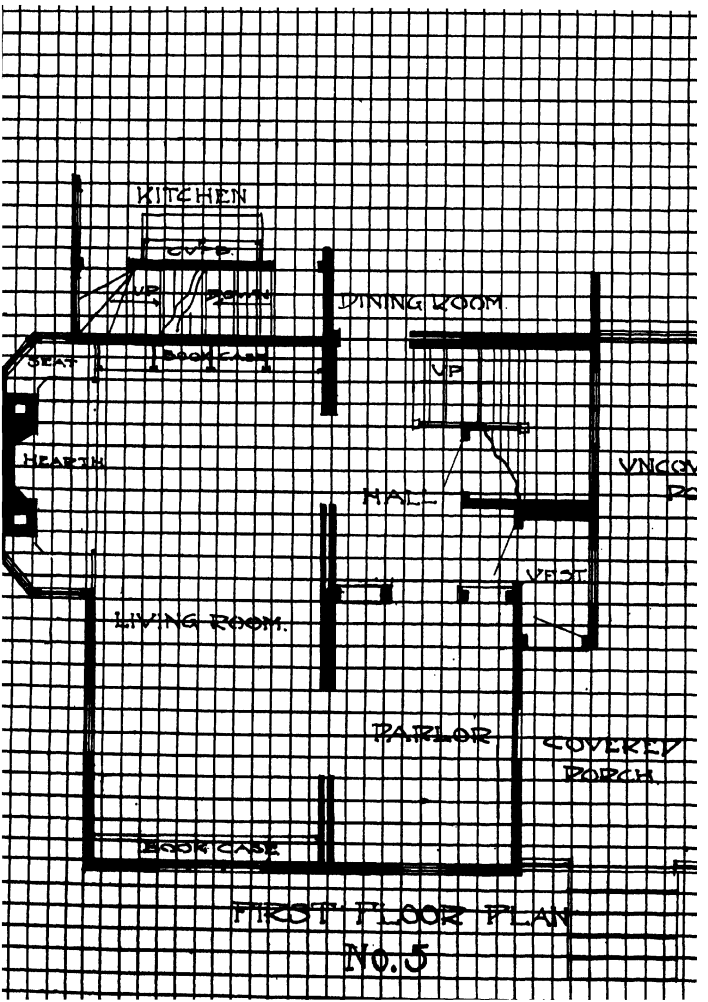
The following are reproductions of Plans No. 4 and 5 on cross section paper, ⅛ inch equals 1 foot. They may be cut out and used in answering Questions 11 and 12 of Part II, or if one of the other plans is preferred, it may be drawn on the back of the sheets, double the size as printed in the book. Complete one or more plans. A pencil may be used.


DOWN
COAT CLOSET
DINING ROOM
HALL
ENTRY
LIVING ROOM
FIRST FLOOR PLAN



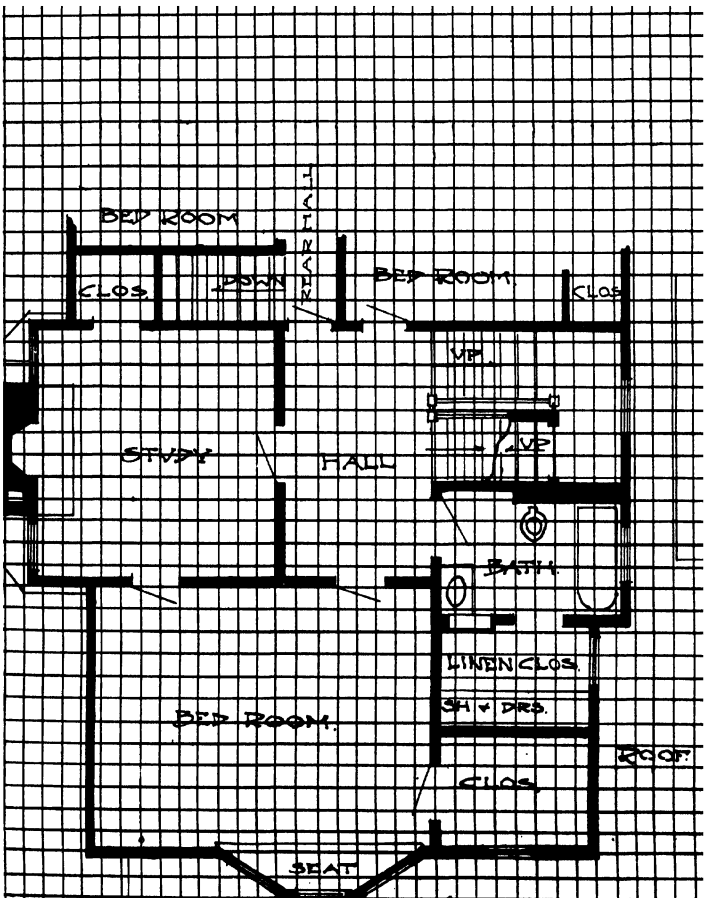

SECOND FLOOR PLAN





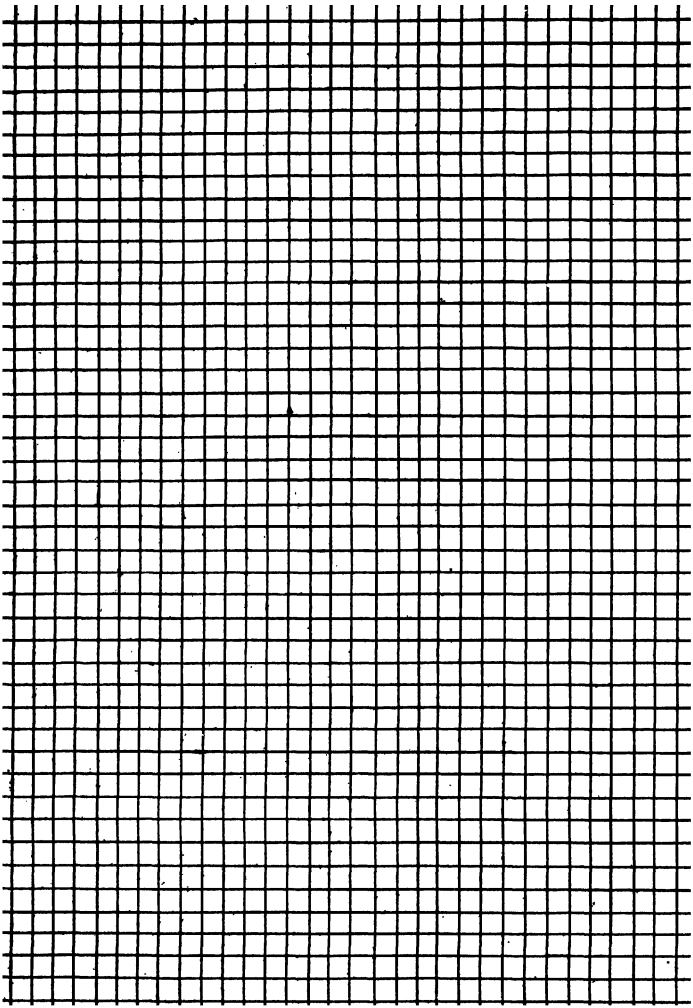
FIRST FLOOR PLAN

NO. 5



SECOND FLOOR PLAN.

No. 5



HALL AND STAIRWAY IN NEW ENGLAND COLONIAL STYLE

Frank Chouteau Brown, Architect

THE HOUSE

Its Plan, Decoration and Care

PART III

CONSTRUCTION OF THE HOUSE

Perhaps an outline will afford the simplest method for suggesting some of the points to be considered in the construction of the house.

THE HOUSE

Outline

(1) *Structure adapted to*
- Location,
- Environment,
- Purpose of the owner.

(2) *Preparation of the soil for, includes*
- Removal of the top soil,
- Grading,
- Drainage.

(3) *Foundation Walls*
- Materials,
- Size,
- Manner of laying,
- Height above ground.

(4) *Cellar*
- Structure, floor and walls,
- Drainage,
- Divisions,
- Inner finish,
- Ventilation,
- Lighting.

Before considering the superstructure, we will stop a moment to amplify some of the points suggested.

The adaptation of the structure to its intended uses has already been considered.

Preparation of the Site

The removal of the top soil prevents it from being mixed with the lime, sand, and cellar dirt, and leaves

it ready for use in the growing of the grass later. If this precaution is not observed it may be necessary to bring good soil from elsewhere.

Foundation

The materials of the foundation will be either brick or stone, according to the expense. Stone is usually more expensive and is generally considered better than brick, but owing to the difficulty in securing good stone masons to lay the stone properly, brick has grown into favor and is preferred by some good builders, especially above the ground line. Neither brick nor stone should be laid in freezing weather and only *cement* mortar, to keep out dampness, should be used for walls below ground. The thickness will depend upon the kind of superstructure. F. C. Moore says in "How to Build a House," "Foundation walls should not be less than twelve inches if of brick, nor less than eighteen inches if of stone." The part of the walls above the surface of the ground should not be less than eighteen inches in thickness.

The Cellar

One feels inclined to beg that special emphasis should be given to the construction of the cellar, for out of it issues so much that makes for health or disease. Probably it will never be known how much of the low state of vitality found in some families is to be charged to an illy ventilated, badly lighted, poorly drained cellar used as a storehouse for decaying vegetables and sending its foul germ-laden air to every part of the house.

It is more sanitary to have the cellar under the whole house and adds very little to the expense. Its

A SUMMER LIVING ROOM
Frank Chouteau Brown, Architect

PARLOR IN NEW ENGLAND COLONIAL STYLE
Frank Chouteau Brown, Architect

ceilings should not be less than seven feet high, plastered if possible on metallic lathing. The side walls should be whitewashed. The floor made of concrete. It should be well drained, well lighted and partitioned into such rooms as have definite uses. The vegetable room should be separated and fitted for its purpose.

SUPERSTRUCTURE OF THE HOUSE

(1) Framing
- Balloon,
- Braced.

(2) Walls
- Materials,
  - Wood,
  - Stone,
  - Brick,
- Shingles.

(3) Floors
- Construction,
  - Single,
  - Double,
- Manner of laying,
- Deafening,
- Sweeping molding.

(4) Chimneys
- Built from ground,
- Walls of flues (eight inches thick),
- Lined with fire clay or flue lining.

(5) Doors

(6) Windows

(7) Closets

(8) Devices for
- Strength,
- Warmth,
- Dryness,
- Safety from fire,
- Preventing shrinkage.

(9) Porches

(10) Roofs
- Material,
- Manner of laying.

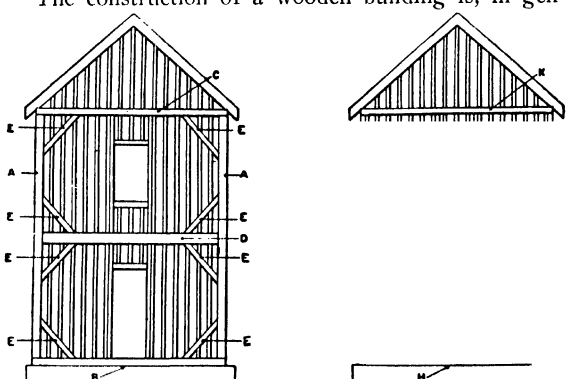
Of the two kinds of framing, that known as the braced is the more expensive and stronger.

Balloon and Braced Framing

The balloon frame is considered strong enough for all practical purposes and is quite generally used. See illustration. Owing to the greater expense of building stone or brick houses, and the fact that they are more apt to be damp than frame houses, wood is the material more generally used.

Frame

The construction of a wooden building is, in gen-



BRACED FRAME. BALLOON FRAME.

a, Corner Posts; *b*, Sill; *c*, Plate; *d*, Girt; *e*, Braces; *f*, Studs; *h*, Sill; *j*, Ledger Board; *k*, Plate.

In the full braced frame all pieces are fastened together with mortise-and-tenon joints. In the balloon frame the pieces are simply nailed, the frame depending upon the boarding for its stiffness. A combination of the two is common.

eral, as follows: The walls consist of a frame of *studs* or light timbers, 2 in. by 4 in. or 2 in. by 6 in., set about sixteen inches apart from center to center. The outside is covered with rough boards, then with clap-boards or shingles.

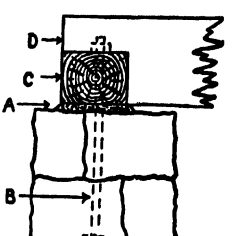
Lath and Plaster

Inside the walls are covered with laths and plaster The interior partitions are made of studding covered

on both sides with laths and plaster. The laths should be green, that is, not dried, for the wet plaster would cause them to warp. The first coat of plaster, called the "scratch coat" because it is scratched or roughened in order to hold the next coat, should be allowed to dry thoroughly before the second coat is laid over. Much of the falling, cracking and annoyance with plastering comes from the lack of this precaution.

The Sill

The studs of the outside wall should stand on a heavy timber called a *sill,* which rests on top of the cellar wall. At the top of the walls the horizontal piece, called the *plate,* is placed, on which rest the lower ends of the *rafters* forming the roof pieces. The rafters are covered with boards and these with shingles.



SILL PLACED ON WALL.
a, Cement; *b*. Anchor Bolt; *c*, Sill; *d*, Girder,

Girders

The *girders* are the heavy timbers set level with the beams of the first floor, on which stand the studs of main interior partitions.

Shingled Houses

Shingle houses are much in favor in some localities and make very attractive and inexpensive homes. Cedar shingles "weather" to a grey tint that is pleasing, but many prefer the brown or green stain. Shingle houses are a little more expensive than plain wooden ones.

Floors Floors should be of well-dried, carefully selected material. The beams are usually two inches thick and ten inches wide; but if one or two inches be added to each of these dimensions the extra cost will add to the strength of the floor and tend to prevent cracks in ceilings and walls due to vibrations. It is better to have the floor double and to put asbestos paper or salamander between the two layers. The paper serves as fire resisting material as well as to deafen the sounds. The under floor should be nailed diagonally. The baseboards should be set upon the under floor if the floors are double, or tongued into the floor plank if the floors are single, to prevent the unsightly cracks that sometimes appear between the floor and baseboard. The sweeping molding should be convex so as to shed rather than retain dust and moisture.

Windows In general, doors and windows should be of a uniform size and height.

In a city house, recently, the writer counted windows of nine different shapes and sizes on the front of a single house.

The small leaded or colored glass window may have its place in the dining room or library where light is wanted without the view; and the French windows which open like doors may sometimes be desirable, but usually the ordinary sized windows hung on weights will prove more practicable for the admission of light and better adapted to keep out the storm. The writer was impressed with the limitations of casement win-

dows recently, when she found herself in a bedroom on the first floor with two windows, one opening on the front porch of the house, the other one on the drive way. The only possible way of securing air in the bedroom was by opening a door, as it were, to the

A SHINGLED HOUSE.

public. The problem was complicated by the fact that the host had explained that bears frequently wandered about the region after dark.

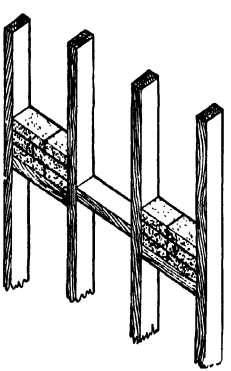
If sliding doors are used precautions should be taken to insure their moving easily when so desired. Closet doors should never open in, and bedroom doors should be so hung as to screen rather than reveal the bed. Swinging doors with glass in them to provide against servants running into each other, are desirable in pantries.

Doors

Front Door

It is desirable to have the front door a little larger and heavier than other doors, with perhaps glass in the upper half, but if the glass extends below the upper half, it detracts from the sense of privacy desirable in an outside door.

Provision for warmth is made by a generous use of building paper, back plastering, mineral wool and felt. Nothing is so good a non-conductor as a dead air space, so double walls with air space between are of special value in this respect.



FIRE STOPS BETWEEN STUDS.

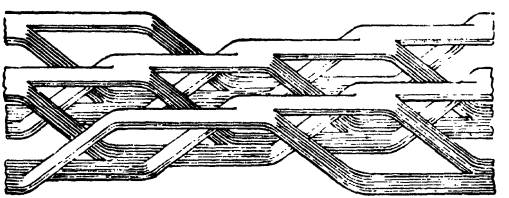
It seems almost criminal to be careless in the matter of fire stops. Yet this is so often the case in the ordinary house, often far removed from the help of any fire department. Hollow partitions, open staircases and spaces in side walls from cellar to garret make drafts and flues for carrying flames. These spaces should be closed on each floor by plaster, cement, or metal stops. Metal lath for ceiling, asbestos or mineral wool between the floors, ordinary lime mortar are all helpful in making a "slow burning" house.

Fire Protection

FLOORS

Material

Volumes might be written upon the subject of floors and their finishing, covering and care. Pine, hard and soft, maple, ash, and oak are the kinds of timber most often used in floors. Soft pine has the advantage of being least expensive. Oak is by many considered the best wood for floor uses, particularly if it is quarter-sawn. All woods darken in time if treated with oil.



METALLIC LATH.

Maple is preferred by those who object to the dark floors, as the closeness of its grain prevents the rapid absorption and consequent darkening by oil. The stained, painted, oiled or waxed floor partly covered by rugs is steadily growing in favor and displacing the floor covered with carpet.

Advantages of Finished Floors

There is much to be said in favor of the finished floor. It saves the tugging and pulling sometimes necessary to make the carpet fit. It simplifies very much the problem of house cleaning. Instead of that week or two in the spring and fall when all the carpets were taken up, pounded, beaten, stretched and pulled

with the resulting finger and back aches, with the rug covered floor, the rugs are removed as often as need be, shaken, the floors wiped off with a damp or oiled cloth and the rugs relaid with much less expenditure of energy. The rugs are much lighter and easier to handle and the dust which accumulates under the ordinary carpet is thus dispensed with; so the rug covered floor is apt to be more sanitary. Some people object to any bare floor where there are children or elderly people. This can easily be obviated by the use of large rugs with borders of matting or filling.

No exact statistics can be given as to the comparative time required in caring for a room with waxed or painted floors with rugs, and one covered with carpet. The testimony of one woman who had the care of eight carpeted rooms for years, is given. After one of them had been transformed by floor finish and two rugs, she said that she would rather care for three such rooms than one carpeted one.

Kind of Finish

The question as to whether the finish shall be paint, varnish, shellac or wax must be decided by the expense and by the use of the rooms. Wax and varnish are not desirable if the floor is to be subjected to the tread of many dusty feet. The oiled or painted floor will stand the wiping with the damp cloth to remove the dust much better. A little kerosene or milk added to the water used in sponging will serve to brighten either the paint or oil.

THE UPPER HALL, PLAN No. 2.

AN ATTRACTIVE HALL WITH HARDWOOD FLOORS
From House in Plan No. 2, Page 62.

Before a floor is treated with varnish or wax, the pores of the porous woods are usually filled with a paste filler, which may be combined with a stain if other than natural finish is desired. This treatment brings out the grain of the wood and prevents the absorption of too much of the more expensive finish.

Varnished Floors

Varnished floors are perhaps easiest to keep clean and when newly finished look well, but they are easily marred and become unsightly in places where there is much wear, especially if the varnish is not of the very best quality. The cost of the *best* materials is small in comparison to the cost of labor in finishing floors. Refinishing is always an expensive process, so that it is economy to use the best varnish obtainable. Much expense will be saved by re-varnishing at the first sign of wear, for if the surface becomes broken, the wood underneath absorbs dirt, and scraping or planing may be required to remove it. It will be found cheapest in the end to apply a thin coat once a year, or oftener if necessary.

Shellaced Floors

Many housewives find shellaced floors easiest to manage. Shellac varnish is made by dissolving gum shellac in either grain or wood alcohol. The varnish which one buys is apt to be adulterated with cheaper, inferior gums, so that the surest way to get pure varnish is to make it for oneself. The materials can be obtained at almost any drug store. To make sufficient quantity for small repairs, six ounces of light yellow flake shellac may be added to a pint of alcohol. The

gum will dissolve in about an hour and make a varnish of proper consistency for floors. It is best to strain the varnish through cheesecloth before using. The varnish will dry in less than an hour and makes a very hard surface. All varnish should be applied with long, slow strokes of the brush and *with* the grain of the wood.

In repairing a varnished floor which has been neglected, the much worn, dark places may be scrubbed with water and a fine sand soap, like sapolio, until clean; then be given a preliminary coat of varnish, and after these places have dried, the entire floor should be varnished.

Waxed Floors

Many think that wax makes the most desirable and lasting floor finish for the living rooms. The expense of this finish is somewhat more than the varnish finish because of the greater amount of labor required. Clark in "The Care of the House" recommends that a new floor be treated with two coats of linseed oil and turpentine mixed with enough Japan dryer to dry over night. This is put on to prevent the floor from showing spots. When this is dry, two coats of floor wax are applied and after standing over night, rubbed thoroughly into the wood and polished with a weighted brush made for the purpose. A waxed floor should be given a new coat of floor wax every year or oftener in the places subjected to hard wear. A floor so treated will last for a long time. One objection to the wax finish is that water will turn the coating white.

The floor must be cleaned with a dry cloth or mop or one which is only slightly *damp* and rubbed occasionally with the weighted brush. If the floor becomes spotted by water through accident, the damage can be repaired easily by applying a little wax and rubbing with the brush. If the floor becomes soiled or stained the wax may be removed by turpentine, the spot treated and the place covered anew with wax. Ink or iron stains may be removed with a solution of oxalic acid.

Kitchen Floor

No entirely satisfactory finish for the kitchen floor has yet been found. The time honored way of scrubbing with soap and water makes the whitest and cleanest looking floor, it is true—but the work required! It does not seem to be an economic condition to have the floor of the work shop such that nothing may fall upon it. Linseed oil, frequently applied, makes a finish in every way good if it were not for the unsightly darkening. When the wood is thoroughly filled with oil, nothing will produce a spot on such a floor, not even grease. It may be wiped up with a wet cloth but should not be scrubbed with soap and water.

Linoleum

A good grade of linoleum makes a floor covering most easily cared for. When this is to be used there is no necessity of laying an expensive hard wood floor in the kitchen. This does not mean, however, that the floor need not be carefully laid, for if any of the boards warp the linoleum will be quickly worn through in the raised parts.

Oiling

The clear boiled linseed oil is applied hot. The first essential in the care of any finished floor is that it should be perfectly *clean* and dry before oil, wax or varnish is applied.

The floors of pantries, back hall and stairs may well be finished in oil.

Expense of Finished Floors

The expense so often urged against a hard wood floor does not seem to be borne out by the following statistics—carpets to look well must be frequently removed while waxed or oiled floors may be kept in order for years with slight additional expense.

The utmost care should be used in securing well dried material for floors, and eternal vigilance is required to prevent new floors from being ruined by careless workmen before the house is finished.

Comparative Cost of Floors

The following table compiled from recent estimates will answer some of the questions concerning the cost of new floors per square foot.

1. Cost of soft pine floor,
   Laid unfinished .....3½ cents
   Stained
   Total cost of floor .....4⅛ cents

Painted

2. Cost of soft pine floor,
   Laid unfinished .....3½ cents
   Painted two coats, cracks not puttied .....1½ "
   Total cost of floor .....5 cents

3. Cost of hard pine floor, **Oil**

Planed and scraped	7	cents
Oiled with one coat of hot linseed oil	⅜	"
Total cost of floor	7⅜	cents

4. Cost of hard pine floor, **Shellac**

Planed and scraped	7	cents
Stained and two coats of shellac	.2	
Total cost of floor	9	cents

5. Cost of soft pine floor, **Carpet**

Laid unfinished	3½	cents
Cost of ingrain carpet at 65c per yard	7.2	"
Total cost of floor	10.7	cents

6. Cost of soft pine floor, **Plain Linoleum**

Laid unfinished	3½	cents
Cost of plain linoleum at 65c per yard	7.2	"
Total cost of floor	10.7	cents

7. Cost of straight oak floor, **Oak**

Planed and scraped	9	cents
Stained, filled and two coats of shellac	2½	"
Total cost of floor	11½	cents

Oak and Wax

8. Cost of straight oak floor,

Planed and scraped	9 cents
Stained, one coat of shellac and wax	2½ "
Total cost of floor	11½ cents

Brussels Carpet

9. Cost of soft pine floor,

Laid unfinished	3½ cents
Cost of Brussels carpets at 80c per yard	9 "
Total cost of floor	12½ cents

Inlaid Linoleum

10. Cost of soft pine floor,

Laid unfinished	3½ cents
Cost of inlaid linoleum at $1.10 per yard	12.2 "
Total cost of floor	15.7 cents

Quartered Oak

11. Cost of quarter sawed oak floor,

Planed and scraped	14 cents
Stained, filled and three coats of varnish	5 "
Total cost of floor	19 cents

The above cost is given in items of sq. ft. from which it is easy to obtain the cost per sq. yd. if one remembers that nine sq. ft. make one sq. yd.

One or two examples are worked out for the sake

of comparison. For example: What is the cost of the floor in a room 15 ft. square with

Examples

1. A soft pine floor covered with ingrain carpet?

2. A soft pine floor covered with Brussels carpet?

3. A hard pine floor, planed and scraped, with one coat of oil?

4. A hard pine floor planed, scraped, stained and with two coats of shellac.

A room 15 ft. square contains 25 sq. yds.

The table shows (No. 5) that a soft pine floor with ingrain carpet costs 10.7 cents per sq. ft.=96.3 cents per sq. yd.

25 sq. yds. cost 96.3x25=$24.075.

A room of the same dimensions of soft pine covered with Brussels carpet (No. 9) costs $28.125.

If the floor to be of hard pine treated as in No. 3, the cost will be $16.59.

If the floor be of hard pine treated as No. 4, the cost will be $20.25.

OLD FLOORS

Suggestions

Many people who would be glad to have the benefit of the use of rugs, feel that they cannot undertake either the trouble or expense of having new floors laid. For such the following suggestions, which have been carried out in actual practice, are given. One woman wished to make over an old soft pine floor, but found the wide cracks a great detriment. She overcame this difficulty by stretching very tightly over the floor

strips of old sheeting. To this she applied two coats of paint and thus secured a very satisfactory "border" to her room, the center of which she covered with a rug made of old ingrain carpet which had been ravelled out and woven over.

Another woman secured a very good looking floor from an old, soft pine one with wide cracks by applying first, a coat of linseed oil, after which the cracks were filled with a "crack and crevice filler," then an oak stain and two coats of floor finish were used. The wood work of the floor was inconspicuous because it was of the same general tone as the rest of the wood work of the room.

This treatment of the floor cost $5.00 and the floor is in quite good condition after two years constant use.

Color In treating an old floor it is well to avoid the use of bright colored stains or paints as such treatment calls attention to the floors; also very dark colors are to be avoided as they show the dust more easily than lighter colors. At the same time it is to be remembered that in the general color scheme of the room, the floors are supposed to carry the deepest tones, the walls to be lighter and the ceiling still lighter. It is well if possible to have the color of the floor blend with the color of the baseboard and with the border of the rug.

Floor Coverings The kinds of floor coverings now on the market are so numerous that one can hardly fail to find a suitable one. Fiber carpets and mattings of good color and de-

sign can be obtained for a comparatively small sum. Then there are a great variety of American rugs. The "Smyrna" rugs made in Philadelphia are very satisfactory. Oriental rugs with their beautiful durable colors are a constant source of pleasure. It ought to be remembered in selecting any floor covering that the walls and floors are to be a background for the other furnishing. Therefore, patterns and colors that "rise up and hit you," startling colors, immense bouquets and in general large designs are to be avoided. Bright colors in a small pattern or a conventional design make a much better background.

A LIVING ROOM AND LIBRARY COMBINED.
View Looking Towards the Fireplace, Plan No. 5, Page 70.

DECORATION AND FURNISHING

No problems of household management are perhaps more trying to the average woman than those of decoration and furnishing. The daily paper will provide her with menus for every day in the week, with directions for the preparation and the service of the food. The current magazine will give her numerous suggestions for her clothing, but she finds fewer helps in the line of decoration and feels a greater need for assistance there.

The subject is a large one. Let us begin with some questions.

Decoration Defined

What does decorate mean? To embellish; to adorn. The savage decorates his body with paint; his tools by carving them. The child easily learns to say "pretty," "pretty;" and the woman tries to express her sense of beauty in her house furnishings. Why does she so often fail? Usually for one of three reasons, viz.: (1) Because of a lack of trained color sense; (2) Because she overlooked the law of appropriateness; (3) Because of the lack of means. But no amount of money can compensate for the failure to appreciate the value of color and appropriateness.

Proportion

The definition of decoration sometimes leads one astray by giving the impression that decoration applies to something *added* and has nothing to do with the original construction, while the truth is that good decoration in houses has its beginning in good architecture and that a room which has good lines and good

proportions will require less decoration and look much better than one not so constructed.

Color Sense

A trained color sense is not an easy thing to acquire; it is born of association with the beautiful, and some people's opportunity for seeing the beautiful creations in the way of art treasures and good architecture has been limited.

However, one should not be discouraged. Nature shows us beautiful things in form and color, so most of us have access to at least one great teacher. Moreover, the world is waking up to the pleasure and profit to be found in developing the artistic instinct. Copies of the really good pictures of the world are being made for moderate prices. The school children are being trained in form and color, and William Morris's definition of decoration, "To give people pleasure in the things they must perforce use; that is the one great office of decoration. To give people pleasure in the things they must perforce make; that is the other use of it", is being appreciated more and more.

Good "Lines"

Where then shall the decoration begin? With the lines of the room. If the house be new, it is to be hoped that the builder has realized the truth of the statement, "Proportion is the good breeding of Architecture". If the room is not in right proportion, decoration should begin in the consideration of what may be done to make the lines of the room good. If the ceiling be too high, the effect of lowering it may be given by allowing the ceiling paper (or calcimine) to

A CHEERFUL LIVING ROOM. PLAN No. 5, PAGE 70.

A LIVING ROOM DEVOTED TO MUSIC.
See House Plan No. 2, Page 62.

extend a foot or more on the side wall. The picture molding may be put on where the ceiling paper meets that of the side wall. If the pictures are hung from this molding and brought down to the level of the eyes, one is helped to the impression that the molding marks the line of the ceiling. "Skied" pictures that one must stretch one's neck to see are never decorative. A wainscoting and frieze help greatly in breaking up a high side wall.

Low Ceiling

Again, if the ceiling be low a striped paper, where stripes extend from baseboard to ceiling, will make the ceiling appear higher than it really is.

The apparent height of windows may be changed by their drapery.

Wall Spacing

The opening of a door in the opposite way or the closing up of it altogether, may materially improve the wall spacing of the room.

Color

After lines and proportion comes color, and here one meets many difficulties because so many factors enter into the problem. The quantity and quality of light that enters the room, the use of the room, the "livableness" of the color, all are to be considered. For example, a pink or lavender ribbon may give just the finishing touch to a young girl in a white muslin dress, but a living room in pink or lavender may prove something of an undertaking "to live up to" three hundred and sixty-five days in the year. The psychology and physics of color are not easily given in set formulae. A few general principles may prove helpful.

White Light

White light may be separated into what are known as the seven primary colors, red, orange, yellow, green, blue, indigo and violet, although there are a great number of different shades of these colors. In a stricter sense red, green and blue are the primary colors because they can not be resolved into any others.

Complementary Colors

Complementary colors are those colors which when combined produce white light. Rood in his "Textbook of Colors" gives the following Table of Complementary Colors:

Red ..... Green blue.
Orange ..... Cyanogen blue.
Yellow ..... Ultramarine blue.
Greenish yellow ..... Violet.
Green ..... Purple.

A knowledge of complementary colors is important because these colors furnish the strongest contrasts. Again there are the "cool" colors—blues in various grades, grays, apple green; warm colors are reds, golden browns or pure gold, olive green. Colors are also classified as grave, gay or somber.

Harmony

Harmony and appropriateness are to be carefully watched in the selection of color schemes. Harmony is secured by the skillful blending of colors of somewhat the same tone. Contrasting colors emphasize each other and should be used with care. For example, in a room in which the walls are colored bright red and the floor covered with a bright green rug, the contrast between the two colors will make both stand out more

plainly. Where the background of floor and walls is so striking it is difficult to have the furnishings blend with the colors already present. In simple furnishing it is better to choose some one prevailing color as the predominant one rather than two contrasting ones.

Color and Lighting

The quantity and quality of light which enters the room will prove a potent factor in selecting its color schemes. A room with a southern or western exposure is likely to be well supplied with brightness and sunshine and needs to have its brightness modified by cool blues or greens, so a west dining room in red is apt to seem too warm most of the year, while a sunless north room needs the yellow and gold to be brought to it in the colors of its walls and draperies. Golden browns and rich reds have their place in such rooms.

Principle of Gradation

One more principle is of universal application in the consideration of color effects. It is known as the principle of gradation. According to it the strongest tones of color belong at the base. In a room the floor serves as the base in any scheme of decoration. The floor covering, therefore, should carry the strongest tones, the walls should represent the next lighter tone and the ceiling the last step in the gradation. This does not imply any fixed line of demarcation for the varying tones. It is rather the statement of a general relation that is to be maintained among the various parts. The floors, walls and ceiling should sustain a certain relation to each other, while they are the setting for the furnishings. The application of this principle forbids

the use of light gray paint for the floor with deep blue walls and ceiling, though blue and gray in some combinations might be most desirable.

Appropriateness

The law of appropriateness if practiced would remove many things from our homes; the spider web tidies that protect nothing, the gilded spoon tied with a ribbon and hung in the parlor, the bric a brac from the sitting room mantel that must be dusted every day, the meaningless pictures, the very light and delicately upholstered chair from the sitting room, the pitcher that will not pour from the dining room. It would exchange this rubbish for one beautiful picture, or comfortable chair, or a table that will hold something and thus add simplicity and comfort to the house.

Diamonds are always valuable and beautiful but they are not the proper accompaniment of morning dresses. They show to better advantage among velvet and laces; so velvet carpets and real lace curtains are not to be expected in the living room.

Relation of Rooms

Rooms must be considered not only as individual rooms but in their relation to the other parts of the house, if one would have the house a harmonious whole. To this end sharp contrasts in size of rooms, color and furnishings are to be avoided. One should not be ushered from a bright green parlor with handsome mahogany furniture to a dull and faded sitting room with the cast off and worn out parlor furniture. Such contrasts show that emphasis is put upon display rather than comfort in the house. Bright green is

rarely if ever a suitable color for a wall, and half worn, cast off furniture is neither useful nor beautiful anywhere.

Design is another important factor in decoration, as is also the kind of material.

PRINCIPLES OF SELECTION

Avoid the Pretentiou and Unusu

Certain general principles apply in the selection of decoration and furnishings. Avoid pretentious things. If real lace cannot be afforded, sham lace ought not to be allowed. Muslin curtains are better adapted to the purpose and much prettier than sham lace ones. Get simple things, few things, durable things and such as will harmonize with many others. Avoid the unusual; chairs with impossible twists in their legs; tables with glass and brass feet; settees, whose arms are "decorated" with hearts set on at irregular intervals and whose backs are "finished" with marvelous clusters of grapes glued on. These and their kind make a room a museum for the keeping of curios rather than a place of rest and beauty.

Definite Plan

One should have a definite plan in mind for the decoration and furnishing of the whole house before it is begun. Possibly only the color scheme for the walls can be realized the first year with a few pieces of good furniture, but these will be a pleasure because of the simplicity, harmony and comfort which they afford. Styles in furnishing vary; but good colors, good designs and appropriate furnishings are always in fashion and a satisfaction.

ROOMS

Perhaps a few concrete examples may help in the application of these principles of decoration. Let us begin with the vestibule—Certain additional principles apply in the selection of all furnishings, (1) The purpose of the room; (2) Its size; (3) The use of the article. These furnishings should be adapted to the purposes of a room so exposed as a vestibule. The floor coloring should be the deepest; a suitable gradation would leave the walls of a lighter tone with the ceiling still lighter. The amount of light will influence the color. The vestibule is not likely to be too well lighted, and therefore dull and dark colors are to be avoided. Pompeian red, or tints of brown corresponding with the natural finish of the wood are desirable.

Vestibule

The floor of the vestibule should be tile or linoleum that it may be easily cleaned. Owing to the effect that the weather may have upon the paper some prefer the use of rough plaster or paint. The window hangings should be of some washable material. The entrance is to shut out the world and at the same time serve as a pleasant introduction to the brightness and cheer within. Durable, substantial, and pleasing effects are to be sought in its furnishings.

The Hall

In the hall proper the same rules as to gradation of color hold. It is safer and better, if one is somewhat of a novice in the selection of color, to choose some one prevailing tone for the hall and the rooms that open from the hall in order to avoid a striking contrast,

and trust to relieve the monotony by a difference in the principal colors in the rugs. A grey green makes a comfortable color to live with, and the halls and rooms opening from it may have papers in which these colors predominate; varying shades of reds and browns may be used in the rugs.

Wall Covering

In wall coverings one has the choice of many materials, calsomine, papers of many kinds, grass cloth, burlap and its near relative fabrikona. The list as given indicates in a measure the scale of cost. Plain papers have their use and their abuse. A plain paper makes a good background for pictures and is less likely to introduce elements that are at war with the other furnishings. On the other hand too liberal a use of it in a house tends to monotony. Very good patterns may be found in two-toned papers. Of a given sum of money to be expended in wall covering, some prefer to use elaborate and expensive Morris or Crane papers and to omit all the pictures.

Grass cloth makes satisfactory hanging. Its slightly uneven surface gives pleasing effects in the distribution of light and shades. Burlap and fabrikona are more expensive but they can be painted and so renewed. Both give a somewhat severe and substantial air to a room. Too much of them in a small house gives a somewhat heavy effect. They are, perhaps, most suitable for library and dining room.

A MORRIS ROOM PAPER AND DRAPERIES FROM THE DESIGNS OF WILLIAM MORRIS.
Courtesy of The Tobey Furniture Co. Chicago

The Living Room

A two-toned green paper with a cream ceiling, weathered oak furniture and wood work, with Oriental rugs or American ones in shades of browns and a little red, make a satisfactory living room. Or one may use the copper brown tints for the walls with blues, browns and reds in the rugs. However, blue is likely to show soil and wear more easily than either browns or reds. Morris's words, "Have nothing in your house that you do not know to be useful or believe to be beautiful", finds especial application in the sitting room. Where so many tastes are to be considered as in the family living room one can hardly hope for great beauty, but there should be harmony, comfort, and restfulness suggested by all the furnishing as well as durability and appropriateness. Chairs that do not tip over easily; tables that will hold the lamp, books and magazines and leave a little extra space are quite necessary here. Draperies and bric a brac should be conspicuous by their absence; a beruffled lamp and a bedecked sofa cushion are alike undesirable. A good light and comfortable chairs are essentials.

The Parlor

The furnishings of the parlor are best characterized as delicate. Some one has said it corresponds to the afternoon tea toilet of the family. Whatever of elegance the family wishes to show will find its place here. Old rose or blues make a good background for the delicately upholstered furniture, the rare vase or bit of favrile glass. Oriental rugs with their mellowed tones will harmonize with almost any color.

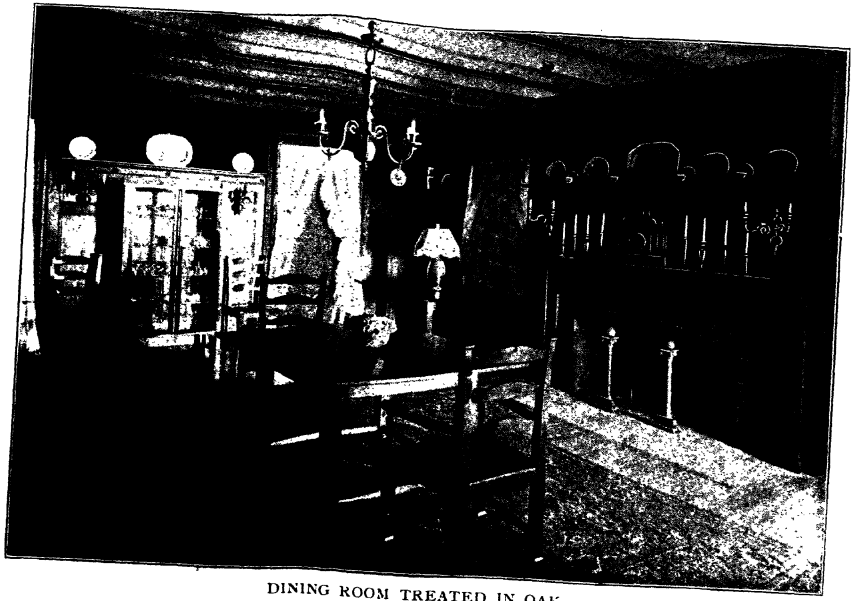
DINING ROOM IN COLONIAL STYLE
Edmund Quincy Sylvester, Architect

The dining room requires little furniture besides the table, chairs and china which are its essentials. Soft yellow walls, mahogany furniture, ivory white paint and net curtains make a pleasing combination. Some prefer the Delft blue with cream ceiling, oak furniture and the Delft china displayed on the plate rail. The plate rail is a somewhat questionable feature, as sometimes used with a motley collection of old ugly china covered with dust, it is far from decorative. A sideboard on which a few good pieces are displayed at one time is likely to be more truly decorative, and a china closet built in, more useful. **The Dining Room**

Leather bottomed chairs are a desirable addition to a dining room, and burlaps may be used very successfully on its walls.

The kitchen furnishings should be such as can be kept clean easily. Linoleum seems to have the preference as a floor covering. Tiles are expensive, hard for those who must walk over them constantly and a hard wood floor is more difficult to keep in order than linoleum. A good piece of linoleum will last for years and its use dispenses with the scrubbing which takes so much time and energy. If the worker is careful to wipe up the spots immediately, the care of the kitchen floor is reduced to a minimum. **Kitchen Furnish**

In wall coverings, one has the choice of paper, calsomine, paint, enamel paper or oilcloth. Paint sometimes scales and its continuous use necessitates a number of coats which must finally be removed and this is



DINING ROOM TREATED IN OAK

Finish and Furniture after Modern English Style
Frank Chouteau Brown, Architect

a somewhat tedious and expensive process. Paper must be frequently renewed, the enameled paper is quite durable and can be wiped with a damp cloth; oilcloth stands this treatment still better, and for the woman who does her own work and does not wish to calsomine or paper her kitchen every season, it is perhaps the most satisfactory wall covering and it may be obtained in very attractive patterns and colors. Under present circumstances the kitchen may be a very attractive room and color schemes are as effective here as anywhere.

Placing of Fixtures

One feels inclined to turn aside for a moment from the purely decorative effects in the kitchen furnishing to plead for a careful placing of the essential furnishings, range, sink and work table, so as to keep the working space within small compass. The height of these same articles plays no small part in the comfort of the workers. Most kitchen sinks are too low, and however much the plumbers may insist that it is the "regular height", the mistress should see to it that it is made the height she finds convenient. It is a great waste of energy to be obliged to bend double in so simple a process as dish-washing.

The sink should be ample in size and the faucets set well up and back. Breakage is much more apt to occur in a narrow sink than in a broad one.

The Bedroom

The bedroom is the place for individual expression such as is not attainable in the family room. The first requirement is a good bed; be the mattress hair, wool,

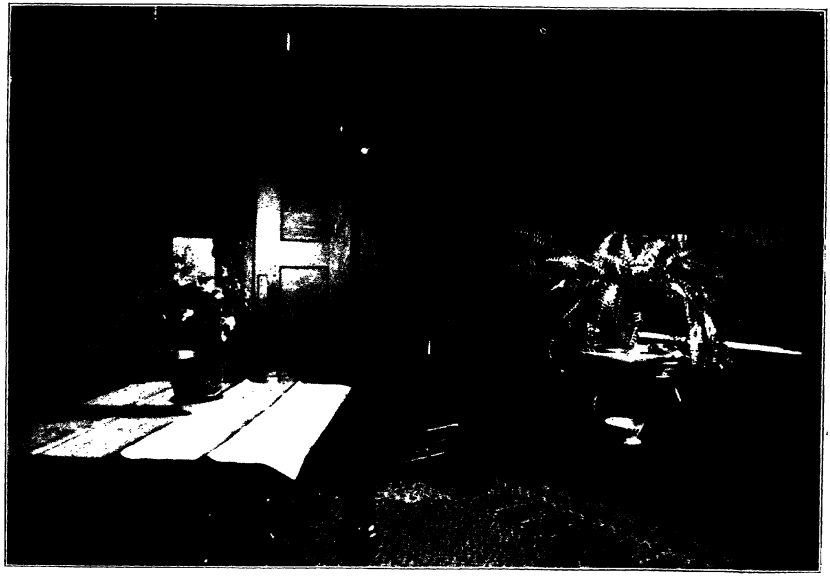
cotton or husk, it should be the best of its kind. Many people have a wrong sense of values in regard to bedroom furnishings. Much too large a proportion of the total expenditure goes for something other than the mattress, and yet one-third of a life is to be spent on the bed, so the mattress and springs should have the first consideration. A hard wood floor and a rug or two help to the simplicity which aids restfulness and to the cleanliness which is one of the most desirable elements in bedroom furnishings. Here is a chance for dainty belongings, for light and airy wall papers,—cool blues, greens and pinks—not with fantastic figures that dizzy and perplex by their intricacies. The bedroom is not to be a sitting room, but a sleeping room with perhaps an easy chair and one or two favorite books, beside the mirror and drawers in dresser or chiffonier. The bath room may relieve the necessity for a wash stand and thus save the trouble of caring for the articles it requires.

The Mattress

Bedroom Floor Covering

One has a large opportunity for choice in the matter of suitable bedroom floor coverings—mattings in great variety, fiber carpets, Berea rugs or the more expensive ones.

A very attractive bedroom can be made with white enamel paint, white iron bedstead and the Japanese matting with its blue figures and a blue rug. An old dresser may be quite transformed by a coat or two of white paint. Rattan chairs because of their lightness make good bedroom chairs



THE DINING ROOM IN HOUSE. PLAN No. 4, PAGE 66.

BEDROOM IN A RESTORED OLD COLONIAL HOUSE

Edmund Quincy Sylvester, Architect

The bathroom is one of the most useful rooms of the house and can easily be one of the most attractive. Good plumbing, a commodious tub and a stationary wash stand are its most attractive furnishings. A hard wood or tile floor with a small rug, a wainscoting of wood, tile, or cement made to resemble tile, with paint or oilcloth above, give a good setting for the necessary fixtures. A small cupboard for the bathroom accessories, a larger one for the towels, a washable curtain, a good mirror and a towel rack complete the list of essentials. A desirable addition is the chute, by which the soiled clothes may be sent down to the laundry. Some very ugly bathrooms have been transformed by a generous use of white paint and enamel.

The Bathroom

DRAPERIES

A word should be said in this connection regarding draperies for they have a potent influence in making or marring the artistic effect of the room. If of the right color and suitable material they add much to the attractiveness of the room. A beautiful portière may serve as a picture in giving color and brightness to a dull room. In general their color should follow that of the walls. In order to give variety, if the walls are plain the curtain should be figured; while if the walls are covered with figured paper the curtain gives variety by plainness.

Color

AN ATTIC ROOM IN HOUSE No. 4 MADE AN EXCELLENT STUDY.

Appropriateness

The law of appropriateness should be observed in regard to window hangings. Curtains do soften the lines and take away the bareness and stiffness from the room, but that fact does not make it desirable to have a double set of draperies in a living room. The family need the light, air, and sunshine which the hangings, particularly if they are heavy, shut out. We forget that the heavy hangings were used originally for the purpose of keeping out the wind and rain which entered through the openings cut in the walls of the castle.

Texture

Texture and quality are important factors in selecting draperies. Silk lends itself most easily to graceful folds, and wool comes next, but alas! woolen stuffs are a favorite haunt for moths. This leaves cotton and linen for inexpensive hangings and there is a large list from which to choose; chintzes, lawns, muslins, cretonnes, denims, Madras, hop-sacking and countless others. Chintzes have a large use in bedrooms and in summer houses. Denim is very much prized by some—in indigo blue it is apt to hold its color well; that and Turkey red are the two colors which are most nearly "fast" in cotton stuffs. Madras makes very pretty and effective curtains for those who are not so old-fashioned as to feel that nothing is quite so satisfactory as white. The fading of most of the cotton stuffs is a serious objection to their use. Mrs. Wheeler says in "Principles of Home Decoration": "There is a place waiting in the world of art

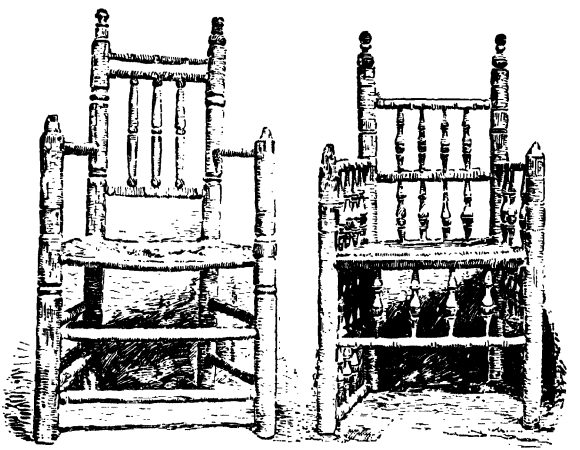
A ROOM CROWDED WITH FURNISHINGS

THE SAME ROOM WITH SOME OF THE FURNISHINGS REMOVED.

(The large picture on the left hand wall is placed too high.)

A Missing Textile

and decoration for what in my own mind I call the missing textile. This is by no means a fabric of cost, for among its other virtues it must possess that of cheapness. To meet an almost universal want it should



Governor Carver's Chair. Elder Bewster's Chair.

EXAMPLES OF TURNED CHAIRS.

combine inexpensiveness, durability, softness, and absolute fidelity of color, and these four qualities are not to be found in any existing textile".

FURNITURE

Draperies, furnishings and furniture are so closely related and so integral a part of decoration that it is difficult to tell in what order they should be considered.

We have treated of the wall and floor coverings first and left the separate pieces of furniture to the last on the supposition that in the furnishing of the new house that might be the order observed. One safe principle should guide in the buying of furniture,—avoid getting too many things. The average houses are crowded with pieces of furniture which serve no definite purpose and take space that could be better used.

Helen Campbell in "Household Economics", says: "This reasoning holds good for every article of furniture; first, its use to man; second, its own laws of construction; third, its relation to the thousand needs of household life".

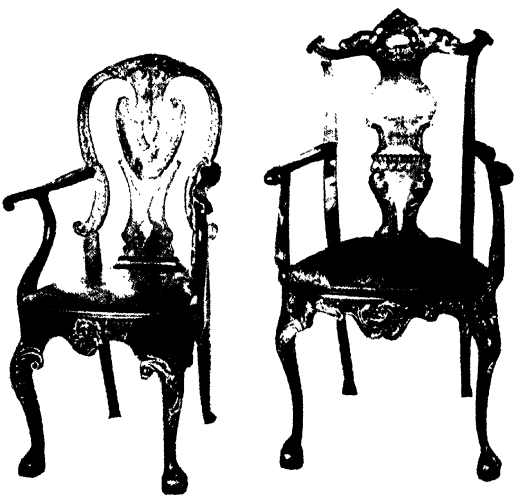
Our early models in furniture as in architecture were English. To them we are indebted for the designs which served as models for New England cabinet makers.

Out of the number of forms we select various styles of chairs as illustrating the types of furniture. Frances Clary Morse says in "Furniture of the Olden Times": "Forms and stools were used for seats in the sixteenth and early seventeenth centuries and inventories of wealthy men do not often contain more than one

or two chairs". Thrown or turned chairs were in use then

English Chair Makers

Three of the best known English chair makers of the eighteenth century were Chippendale, Hepple-



CHIPPENDALE ARM CHAIRS

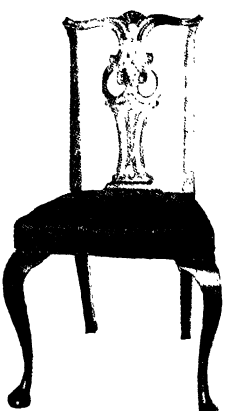
From *Furniture of the Olden Times*, by Alice Carey Morse. Macmillan & Co., Publishers.

Chippendale

white and Sheraton. Chippendale seemed to have borrowed his ideas from the French in the way of ornamentation, though the form is developed from the Dutch style and the legs adapted from Chinese furniture. He seems to have preferred the French scroll foot. A distinguishing characteristic is the bow form

at the top of the back; elaborate carving and fine proportion are his also.

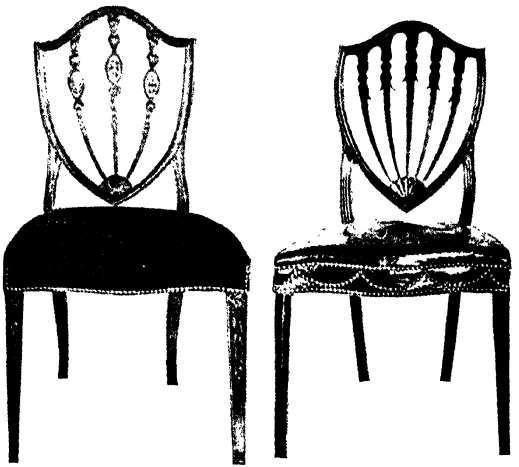
Hepplewhite followed Chippendale. The Hepplewhite chairs are characterized by lightness. He used both carving and inlaying. The heart, oval, or shield shape back distinguishes these chairs. A specialty of Hepplewhite was to finish the chair backs with painted or japanned work. **Hepplewhite**



CHIPPENDALE CHAIR WITH LEATHER SEAT.

Hepplewhite was followed by Sheraton, whose chairs retained many of the features of Hepplewhite's, but he sought to strengthen the chairs by a different construction of the back. He made the back rectangular in shape. The splats end in a rail which crosses the back a few inches above the seat.

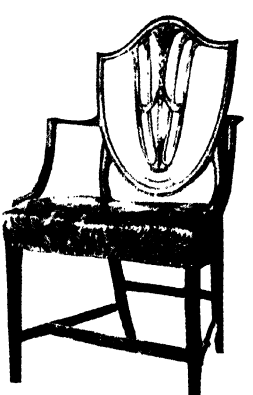
The Windsor is another familiar type of chair which made its appearance in this country about 1730. Originally the Windsor chairs were painted green. The comb back Windsor chair illustrated is a Windsor writing chair said to have belonged to Thomas Jefferson. **Windsor Chairs**



HEPPLEWHITE CHAIRS.

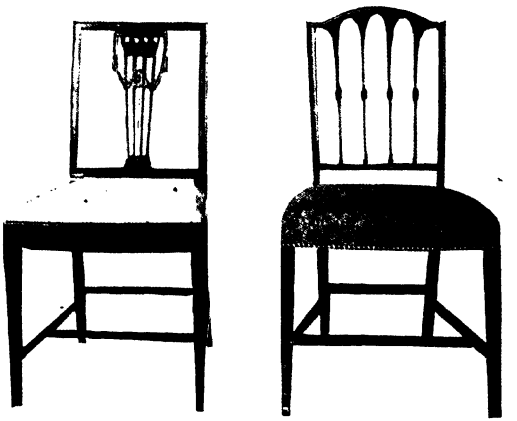
Mission and Morris Furniture

With these types which show so much of beauty and grace of proportion may be contrasted our modern "Mission" furniture, where strength seems often to have been exaggerated to clumsiness. The original Morris furniture, bearing that name, is said to have been much lighter than the heavy pieces now found in the market.



ARM CHAIR
From *Furniture of the Olden Times.*

Good lines, simplicity of construction, strength and ap-



SHERATON CHAIRS.

SHERATON PAINTED CHAIR.
From *Furniture of Olden Times*

Simplicity

propriateness make for beauty in furniture as well as in architecture. The fashion swung from the gilt and gold chair, too ornamental for use and too poorly constructed to bear the weight of any human body except that of a child, to the other extreme of heavy "substantial" furniture, about as immovable and decorative as a log. Fortunately we are in a saner mood at present and are conscious of the fact that it is not only desirable but quite necessary that fur-

Parlor "Sets"

niture be movable. Another delusion that is passing, too—may it continue to pass—is the fashion of "sets." Often these three-piece and six-piece sets were a device

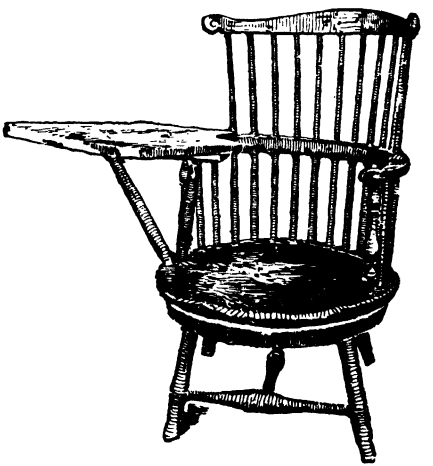
WINDSOR CHAIRS.

for using up the remnants of upholstery and were often at variance with each other in regard to color. Many a misguided individual has bought two pieces of undesirable furniture with the one piece which really sold the "set."

Wholesomeness and Beauty

But a better day is dawning. The public taste is

demanding things that have more real elements of beauty. Henderson's words find a response in many minds. He says, "One must surround one's self with wholesomeness and beauty. This parallelism between consciousness and nature makes this insistence upon convenience of arrangement and respect for form and color more than a matter of taste. It makes it a matter of moral obligation.



Comb Back Windsor Chair of Thomas Jefferson.

A man's surroundings are not accidental. They are a part of himself and must likewise be chastened and purified. An ugly room, badly lighted, poorly ventilated, inadequately heated, must be regarded as morally reprehensible whether provided for one's self or for somebody else. It is the projection of an evil thought and, entering into consciousness, lowers the level of human life."

Changes

However carefully a house may have been planned it is indeed rare that the result is perfect. Very many have not even the opportunity to plan for themselves and either buy houses built for others or are compelled by circumstances to live in rented houses. Remodelling a house that is hopelessly wrong is never a success, as the expense is oftentimes as great or greater than building anew. There are minor changes, however, which can be made at moderate cost.

It is always a good plan to have a carpenter or builder estimate the cost of any changes before beginning, and it will generally be found more satisfactory to have an architect plan alterations. If a house lacks a good broad porch or verandah, the addition of one will well repay the expense. Two seven by nine bedrooms with no closets had better be made into one fair sized bedroom and one closet.

More Windows

A window cut in the kitchen or dark corner or closet will frequently be found worth the cost. The addition of a bay window is less in vogue now than a few years ago, but if made in keeping and not "stuck on," may improve the appearance of the outside of the house and brighten up the room wonderfully. Window seats cost but little and may be found to add much to the comfort of a room.

New Wall Paper

For the money expended the change in wall paper will produce the greatest difference in the appearance

of a room. One never realizes the irritating and depressing influence of ugly wall paper until it is changed for the better. If over two layers of paper are on the wall, the old paper should be removed before putting on new, as the paste used may serve as an attraction for vermin and also make a very unsanitary condition.

Cost

It costs fifty cents a roll, more or less, to "hang" wall paper in addition to the cost of the paper itself, which may be from ten to fifty cents or a dollar or more a roll. A roll of paper will cover four square yards. Generous allowance must be made, however, for waste. The plain cartridge paper is very apt to fade as the coloring is simply a stain, while the figured papers are coated and printed with mineral colors or "lakes." The color of faded papers can be renewed or changed slightly by a thin coat of water color stain applied, of course, by one who has had experience. It sometimes happens that the fading of the paper adds to the harmony of a room.

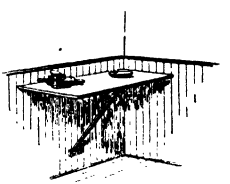
Cleaning Wall Paper

In sections of this country burning soft coal, the use of wall paper cleaner is very common, but it is not so frequently made use of in the eastern states. The most convenient kind of wall paper cleaner comes as a powder which, when mixed with cold water, makes a mass of rubber-like consistency with which the paper is rubbed vigorously. It will brighten soiled paper greatly; pencil marks, even, may be removed with it,

A TWO-STORY KITCHEN TABLE ON ROLLERS
Made from an Old Fashioned Wash Stand with Zinc Covered Top and Hooks for Utensils.
Courtesy of the Boston Cooking School Magazine.

A home-made recipe for cleaning soiled wall paper is as follows: Take a salt sack or make a small cheese cloth bag, partly fill it with ordinary flour and gently rub the paper. The flour will become dusty as the wall paper grows cleaner. A friend of the author makes bread dough, bakes it so that it is quite "doughy," and uses this for a wall cleaner with great success. She says it is much cheaper than the ordinary cleaner.

Happily the style for papering ceilings in figured designs is going out. A ceiling so covered may be painted with two coats of calcimine and thus the restfulness of the room helped.



A Drop Leaf Table.

The staining and painting of floors has already been spoken of. The woodwork of a parlor may often be brought into better harmony with the rest of the room by coats of cream-colored paint. The last coat should be mixed with *good* varnish to give a more resisting surface. Ugly radiators and steam pipes can be improved by a coating of aluminum enamel.

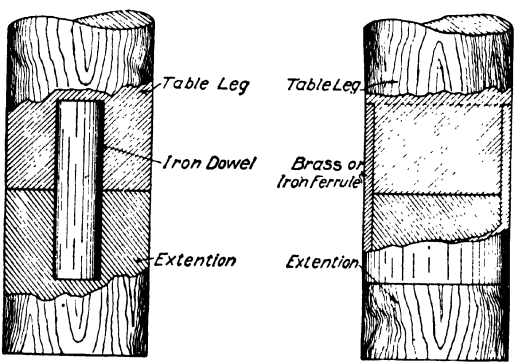
Painting

Most kitchens can easily be changed for the better. A drop-leaf table may be an added convenience. A table, preferably with two "stories" on rollers or castors, should be found in every kitchen. It should be small enough to pass through the doorways easily. It may

Changes in the Kitchen

be used to transfer dishes or food from one room to another. If the bread needs to be nearer the stove for warmth it can be put on this table and moved wherever needed. Such a table is also useful when one is making croquettes or doughnuts. Almost all kitchen tables are too low for a person of ordinary height.

Raising the Table



TWO METHODS OF LENGTHENING THE TABLE LEGS.

Castors will add an inch or more to their height or the legs may be lengthened as shown in the illustration. The same fault is nearly always present in the height of the sink. Changing this will require some little outlay if the plumber must be called in, as is generally necessary. The traps need not be moved, the waste pipe should be lengthened by soldering a short piece of lead pipe to the end of the old pipe, attaching it anew to the outlet of the sink. The water faucets must be raised also in most cases.

Raising the Sink

The Range and Fuel

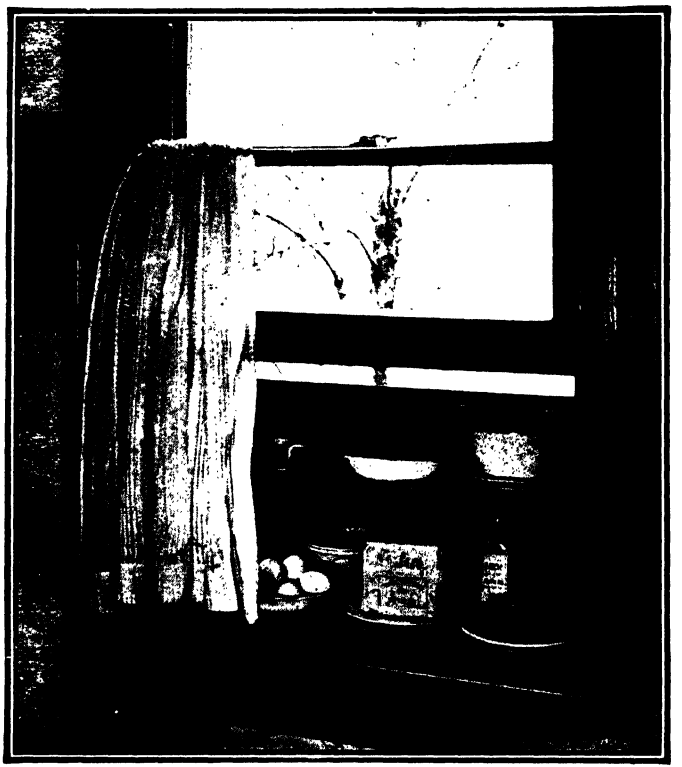
The position of the range may be changed at slight expense by lengthening the stove pipe; its height should be considered too. The fuel ought to be stored on a level with the kitchen. The amount of energy required to carry the coal from the cellar to the range and again to carry the ashes back to the cellar can be measured in tons and is energy entirely wasted.

The illustration shows a window cupboard for provisions to save steps to the cellar in cool weather.

Be the house new or old much of its attractiveness is due to the care bestowed on small repairs. The slatterly, neglected and generally run-down appearance of some houses is due to this neglect of small repairs. Broken door knobs, cracked window panes, scratched furniture that squeaks, doors that will not close, windows that will not open, are all real sources of discomfort in any home and yet are often found.

Repairs

In fixing any contrivance about the house, it is first necessary to make a careful diagnosis of the difficulty before the trouble can be rectified. This is a self-evident statement, but altogether too frequently very simple repairs remain undone because the trouble is not investigated. If as much ingenuity as is shown in fixing over a dress were used about the house many inconveniences would be rectified and dollars saved. Many minor changes and repairs can be very easily made. More hooks where needed, a convenient shelf, a small cupboard—perhaps made from a box—may be



A WINDOW CUPBOARD.
From the Cornell Reading Course for Farmers' Wives.

of great convenience in either the kitchen or bath-room. If the men of the family cannot be inveigled into doing these things, it is very simple to take the initiative.

Tools

Every household should include among its essential possessions provisions for removing these difficulties. Most of them can be disposed of by the use of tools, glue, furniture polish, or some simple chemical.

The tool box should contain a few ordinary tools, such as a hammer—two sizes preferable—a screw driver, gimlet, awl, pliers, a saw, a chisel, and plane. A key-hole saw is light and convenient. The hammer should bear some relationship in size to the nail to be driven. A large hammer and a small nail results in the proverbial bruised fingers. Even a carpenter cannot saw perfectly straight unless he draws a line to guide him.

Putting Screws

In putting in screws, screw eyes and the like, especially in hard wood, it is first necessary to have a hole nearly as deep as the screw to be used. This should be made with a gimlet for large screws and an awl for small screws. There is then no difficulty in inserting the screw to its full length. Frequently a screw too large or too long is used when a small one will hold all weight required. The nails and screws that have accumulated are all that are to be found in most households. A few cents invested at a hardware store in nails, screws, hooks, etc., of assorted sizes will

prove a good investment and may remove the inertia which is so hard to overcome in making small changes.

The Repair Box

The repair box should certainly contain a bottle or tube of liquid glue for mending furniture and toys. A thin coating of glue will hold more securely than a thick one. Success in gluing is dependent on bringing the parts to be glued as near together as possible and keeping them in position until the glue sets. China which must be washed can be repaired by the use of thick shellac varnish. Although this has not as strong adhesive properties as glue, it will not dissolve in warm water, and pieces that one hesitates to throw away because of a small nick may be kept in use until serious accident happens.

Furniture polish, alcohol, turpentine and floor wax are useful in removing scratches and stains from furniture, floors, and woodwork.

Furniture Polish

A furniture polish recommended by an old furniture man consisted of equal parts boiled linseed oil, Japan drier, and turpentine. It should be applied with a *linen* cloth and rubbed until dry.

The care of the floors has been mentioned and that in general applies to the hardwood finish all over the house. Remember that in polishing, all woods should be rubbed *with* the grain. Weathered oak and mahogany furniture may be kept in the best condition by a weekly application of a pure oil, rubbed on well, always with the grain. To keep mahogany as did our forbears, good, hard rubbing is the essential.

Varnish Remove

Varnish may be removed, in preparation to revarnishing, by means of one of the many "varnish removers" to be obtained at any good paint store. These contain amyl alcohol, amyl acetate and other solvents which have a rather disagreeable odor, but they are not caustic and so are more convenient to use than caustic soda and other strong chemical varnish removers. The solvents soften the varnish which then may be easily scraped off with a knife or scraper.

Lacquer

The ornamental brass work about the house as gas and electric fixtures and some of the silver-plated ware is coated with a thin transparent varnish called "lacquer." This prevents the polished metal from tarnishing while it is intact. If the lacquer becomes scratched or damaged in any way the only method of helping matters is to remove the coating, polish the metal anew and apply a fresh coating of lacquer. The old lacquer is easily removed by alcohol. Shops having the proper polishing wheels for obtaining a good polish can accomplish this better than the housekeeper.

Wall Pap Repairs

Wall paper which has been marred by staining or otherwise can be repaired by patching a carefully matched piece over the offending damage, or if the paper be simply rubbed off in small spots, as happens in moving furniture and trunks, a small brush dipped in water will remove the coating of a small bit of the paper and the white spot of plaster can be touched up so as to be unnoticeable.

Care of Rugs

Rugs should not be whipped unless laid flat on the ground. They never should be hung over a line. All rugs improve in glossiness and beauty under proper treatment. Cheap or expensive, they should be swept in the direction they were woven, which may be ascertained by putting your hand over them and feeling which way the nap runs. It ruins Oriental rugs to sweep them in the wrong direction, and small rugs should be brushed with a whisk broom in preference to sweeping them.

Marble

Marble and tiling should be washed with a soft cloth, soap and water. Avoid acids on either; to marble they are destructive. Porcelain tubs can best be cleaned with kerosene and clear water. If the marble bowl is stained, whiting will clean it better than a sand soap, which scratches it.

Matting should be swept, then wiped with a damp cloth, never wet.

Washing Windows

When washing windows, first remove the dust, both outside and in, with a dry, soft cloth. Clean the corners and grooves with a skewer, covered with a cloth. Wash with clean water and ammonia, using plenty of soft, clean cloths, and *polish* dry. Do not wash windows when the sun is shining on them.

Painted Wood-work

Painted wood-work requires care. Paint is softened by wet alkalies, such as ammonia, potash, or borax. Clear, warm water, or whiting and cold water, should be used. The enamel finish is most easily cleaned with clear, warm water. Whiting will remove

the ordinary spots on the wood-work; if stained, alkali will perhaps have to be used and the place re-painted.

Plaster of Paris should be kept on hand as it is convenient for filling up cracks and mending various articles. As it hardens very quickly, some deftness is required in using it. A very little vinegar added to the water will keep the plaster from hardening quickly. **Plaster**

Eternal vigilance in little things is the price paid for small repairs. One must feel it is worth while to mend a broken lock, or oil a squeaky door, or polish the furniture, if one would keep the house looking well.

HOUSEKEEPING

A word more instead of a section must be said in closing about the care of such a house as is described in these pages. Happily the days are passing when the feeling prevails that "anyone can keep house." We have been a long time in learning that housekeeping is a profession for which intelligent preparation is demanded. The woman who attempts to usurp the authority of the trained nurse in charge of the patient does so at the risk of the patient's life. Results quite as disastrous to the life of the household may be expected from the woman ignorant of the first principles of household management and care.

Proper care of the house implies:

1. An intelligent conception of the construction of the house. **Essential**

2. Some acquaintance with appliances for heating and lighting.

3. A knowledge of the sanitary aspects of plumbing.
4. A knowledge of values relative and absolute.
5. A knowledge of materials used in the home.
6. That attitude of mind which finds pleasure and satisfaction in a well-cared-for house.

The Mistress of the Home

The leader of the orchestra must understand the various instruments if he would blend their tones in a pleasing harmony; so the mistress of a home must have some definite knowledge of the machinery of its various parts if she would manage them successfully. It is worth while to know enough about the heating system to save an explosion by simply opening a valve, worth while to know enough about the furnace to be able to save fuel by closing the drafts, worth while to be able to buy intelligently the food, silver, china, linen, and glass needed in a home that the money, of which there is rarely an abundance, be not squandered for poor materials.

Drudgery

The woman who announces that housekeeping is drudgery and that she keeps as far away from it as possible, thus confesses that she has been unequal to her task. To such it must ever be drudgery, but to her who understands the possibilities and satisfaction in a well-ordered house and gives herself to a conscientious and intelligent study of its problems, it gives an insight into and an understanding of people and things; it provides a place for the application of science, economics, ethics and aesthetics and yields the satisfaction of achievement and the gratitude and love of those who have shared the benefits of such a home.

TEST QUESTIONS

The following questions constitute the "written recitation" which the regular members of the A. S. H. E. answer in writing and send in for the correction and comment of the instructor. They are intended to emphasize and fix in the memory the most important points in the lesson.

THE HOUSE

Its Plan, Decoration and Care

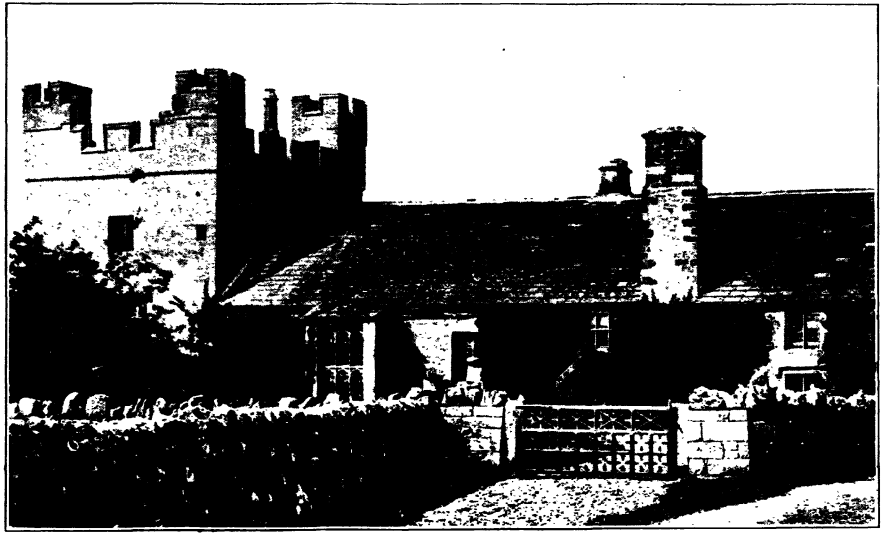
PART III

Read Carefully. Place your name and address on the first sheet of the test. Use a light grade of paper and write on one side of the sheet only. Leave space between the answers for the notes of the instructor. *Use your own words* and answer fully Read the lesson paper a number of times before attempting to answer the questions.

1. Name the points to be considered in the construction of the house.
2. What devices for fire protection are there?
3. Define stud, sill, plate, girder, rafter.
4. What kind of floor for living room do you prefer? Give reasons for your preference.
5. Where should the decoration of a room begin?
6. What do you consider the most important factor in the furnishing of a room?
7. What principles should govern in the selection of the furnishing and furniture of a room?
8. Give a scheme for color and furnishing of a living room (15x25 ft.) with low ceilings, west and north exposure, varnished hard pine for its wood.
9. Give color scheme for a kitchen with covering for walls and floor and the location of the essential furniture.

10. What can you say of draperies?
11. Give the distinguishing characters of some of the best known types of chairs.
12. What seems to you the greatest difficulty in the care of the house? Why?
13. What do you regard as essentials in bedroom furniture and furnishings?
14. Suggest changes in the house most familiar to you which could be made to advantage and at small expense.
15. What suggestions have you to offer concerning household conveniences?
16. Are there any questions you would like to ask relating to "The House"?

NOTE.—After completing the test, sign your full name.



HOME OF ONE OF OUR ENGLISH STUDENTS; TOWER PORTION BUILT BEFORE THE DISCOVERY OF AMERICA

The Tower Illustrates Norman Architecture, Roofed Part English Gothic

SUPPLEMENT TO THE HOUSE, ITS PLAN, DECORATION AND CARE

By Isabel Bevier, Ph. M.

HOUSES OF THE TRANSITIONAL PERIOD

In the papers which I have received it is evident from the answers to the question in Lesson I on the transitional house that much misunderstanding exists in regard to it. By some it seems to be interpreted to mean any inconvenient house, while others feel that they ought not to be expected to be familiar with houses which were built seventy-five years ago. Because of this misunderstanding it seems desirable to add a few words concerning the transitional house. The characteristics of the Colonial house are discussed on pages 25-41, and the statement is there made that the transitional period began in the early part of the nineteenth century.

In order to appreciate the house of the transitional period one must remember how much of the life of a people is shown in its architecture. The difference between the Colonial houses of the North and the South illustrate this point. A glance at the pictures of the two types reveals at once the difference in thoughts and feelings between the dweller in the Sunny South and the one on the Northern "stern and rock-bound coast."

The word transition suggests change and that suggests variety, uncertainty, and these are the words which characterize the period beginning about 1825. The war of the revolution was over, but the spirit of it yet remained; traditions and customs were being questioned. The Americans were experimenting in politics, business, and social customs and naturally this spirit of experimentation expressed itself in architecture. For a time Colonial customs and traditions were maintained, but they were bound to yield sooner or later to the demands of the revolutionary spirit for a newer style of architecture as well as changes in social order and business methods. Architecture is too complex to yield easily to experimentation. As a result the dwellings of the period show all sorts or incongruities.

The well-trained handicraftsmen lost much of their skill in their attempt to build quickly rather than well. They lost, too, the inspiration of association with skilled workmen and good standards as they journeyed westward. The amateur architects lacked judgment and adaptation. Greek art and architecture have been the standard of beauty for all ages, but these architects overlooked the fact that these models of beauty were public buildings, not private residences. The results were incongruities in domestic architecture. Imitations of Greek and Doric temples made strange looking houses on the Hudson. Many towns in the United States are still in their transitional period as

regards art, and architecture, witness the tiny cottage with Doric and Ionic columns of a size sufficient for a Greek temple, or the house with Dutch gambrel roof, French windows and old Colonial outline.

The wooden Parthenon endured longer in the South. The veranda with pillars served to shut out some of the heat of the Southern sun. This lawless imitation of old world forms obtained not only in architecture, but furniture and furnishings as well. Empire furniture lacking the refinement and simplicity of Colonial became common and what one has called the "Dark Middle Age" of American interior decoration began.

The condition of New York residential architecture in the fifties may be gathered from the complaints of one writer who does not like to have the "streets of New York filled with costly and meaningless copies of Greek porticos, of Gothicized dwellings, of ambitious imitations of baronial castles, Egyptian tombs, turreted churches, useless campanile towers." The writer adds, "As yet there is no American architecture whose name is known beyond the circle of his own employers" and he predicts that we must outgrow our childish dependence upon the old world before we shall be able to boast of our architecture as we boast of our ship builders. One style followed another in rapid succession. All lands, all materials were brought into requisition by the energetic American architect, aided by the ambitious rich man who had traveled in other lands. Perhaps the most extreme example of the in-

congruities of the house of the transition period may be found in "The Celebrity," where the new rich man gives this description of his favorite country seat.

"I had all these ideas I gathered knocking about the world, and I gave them to Willis of Philadelphia to put together for me. But he's honest enough not to claim the house. Take, for instance, that minaret business on the west. I picked that up from a mosque in Algiers. The oriel just this side is whole cloth from Haddon Hall, and the gallaried porch next it from a Florentine villa. The conical capped tower I got from a French chateau, and some of the features on the south from a Buddhist temple in Japan. Only a little blending and grouping necessary, and Willis calls himself an architect, and wasn't equal to it. Now," he added, "get the effect. Did you ever see another house like it?"

Extreme as this description may seem, such monstrosities existed and similar examples are yet to be found. It would appear that the United States is still in the transitional period so far as its architecture is concerned though distinct types of American houses are being developed. It is also evident that while the house of the transitional period *may* be inconvenient it is certain to be incongruous because of its blending of elements which do not belong together.

COLOR IN DECORATION

Since the words concerning color were written a number of new books treating of this subject have

come into the author's hands. One of the most helpful of these is Ward's "Color Harmony and Contrast." In the hope that the knowledge may be helpful some of the ideas there presented are here given. As previously stated the way to study color or to teach its use is by actual *practice* with color itself, and that is not easily accomplished by printer's ink.

Judging by the papers received it seems desirable to call attention to the different theories of color, and so explain why red, green and blue are regarded as the primary colors rather than the red, yellow and blue of the older theory. This theory arose from the knowledge that any mixture of pigments could not produce a pure red, yellow or blue, so these were considered as the primary colors. Moreover, most colors other than the primaries can be made by mixing the *pigments* red, yellow and blue, so, those who work with pigments and dyes regard them as the primary ones.

The physicists base their theory of color upon the fact that while yellow exists in the spectrum as a simple color of definite wave-length it may also be produced on the retina of the eye as a color-sensation by a mixture of red and green waves. When it was shown that yellow could be made by a mixture of two other colors it lost its place as a primary color. It has been proved that the retina of the eye is sensitive only to red, green and violet blue; all other color sensations result from the blending of these sensations.

This fact calls attention to the different results obtained by the mixing of pigments and the mixing of colored lights. Yellow and blue *pigments* give green. Yellow and blue *lights* produce white or grayish white, but in no case any tinge of green light. This difference between the mixing of pigments and of light is further explained by the fact that in mixing lights one color is *added* to another, while in a mixture of pigments each color of the mixture absorbs the color of its companion and the final color is due to the power of the mixture to reflect the particular color not absorbed by either constituent. For example, the result of a mixing of blue and yellow pigments may be illustrated as follows:

The colors making up white light are—

Red
Orange
Yellow
Green
Blue
Violet.

Pigments absorb certain colors and reflect others. The mixture of these reflected give the color. The blue pigment absorbs red, orange and yellow. The yellow absorbs blue and violet. Then, only green is left unabsorbed and this is the light reflected which gives color to the mixture. As we are concerned with colors of light in decoration and not with mixing pigments, the scientific classification is the important one here. So much for the theories of color.

It may be well to define some terms. Scientists in defining color consider three of its qualities, viz., Purity, luminosity, and hue, and to these they have given the name "Constants of Color." Purity in a color means freedom from white light. The colors of the spectrum are taken as standards of pure color. All natural bodies reflect more or less white light and are to that extent impure. Artists sometimes use the term to indicate purity from "muddy" tones, but that is not the scientific use of the term.

The second constant of color is luminosity or brightness. This brightness depends on the *total* amount of light reflected to the eye. This total amount varies with the degree of illumination and the amount of black in the pigment. The *tone* of a color therefore depends upon its degree of luminosity.

The third constant is hue. All the spectrum colors have different degrees of refrangibility or different wave-lengths, violet having the shortest and red the longest. As generally interpreted a *shade* is produced by adding black to a hue or color, and a *tint* by adding white to a hue or color. Brown is a shade of orange, the color of the sky a tint of blue. When one realizes the number of shades and tints possible the problem of making a good selection is better appreciated.

Only general principles can be given to aid in the selection of colors.

First, the decorator finds that he can not use the

pure tones in complementary pairs on account of their violent contrast and their inharmonious association. The use of green and red has already been considered. See page 126.

The darkened shades of the primaries and their complementaries make much more satisfactory colors for general use. The pure tones are too exciting, too stimulating to both eye and mind. Ward gives (page 49) the following table of darkened complementaries (obtained by adding black to spectrum colors).

{ Dark red or maroon.
{ Dark blue-green.

{ Olive-yellow or citrine.
{ Dark blue.

{ Dark green, or myrtle.
{ Dark violet-purple or plum.

Besides the "harmony of contrast" in colors there are other kinds of color harmony. One of the most desirable is that obtained by mixing colors with others of closely related hues, where one color passes to another by a marked interval; another method is by the graduation of a color from darker to lighter shades, or yet another by the use of a "dominant color."

Ward says, "Brilliant and intense colors are always very difficult to harmonize in pairs, but if it were necessary to have a pair of brilliant colors in any particular scheme of decoration, care must be taken to use one or other of the pair in a much greater proportion, either of area, or of intensity, than its companion; for in-

stance, if orange-yellow and blue, which are perfectly harmonious together, are used in the same proportion in a scheme of color, the effect will be unsatisfactory and bewildering, as each color will appear to fight for the mastery, one or other color must be distinctly dominant in order to give that sense of proportion and artistic balance which is looked for in true color harmonies. . . . But no two colors in any scheme, however complex, should, as a rule, be used in similar quantities. One color either in area or intensity ought to be in excess of any other color in a good composition." Page 74.

Following out this principle in improving the green and red room already considered, it would be improved by making green the dominant hue and adding touches of red possibly in the hangings or sofa cushions.

"We see this kind of gradation or small interval in the green foliage of trees, where the lighter greens are yellowish, the middle tints of the masses greener, and the darker tints inclining to blue—or grey-greens, though the latter are never absolutely cold in hue.

"When using tints or shades of green in large spaces in decoration, it is always much better to keep the lighter tints purer in color, and the darker shades more grey in hue. This is a lesson from nature which can be applied in decoration with the best results. With other colors this is more or less true, but it applies particularly to green, because it is the most difficult of all colors to manage, either in pictorial or decorative art.

"There is no quality of color in nature, or in art, so precious as that of *gradation*, and none so universal; it is gradation which gives the palpitating and throbbing life to color, in fact, it is the life itself of a color. Compare the flat uniform layer of a wash, or coat of color, with a wash of the same color laid on unevenly, or allowed to flow freely from the brush, and the greater beauty and superiority of the latter will at once be self-evident." (Page 80.)

So much for the principles. It is hoped that the following combinations of color taken from Mr. Ward's book may be helpful.

TABLE OF COMBINATIONS OF DYADS, OR PAIRS OF COLORS

Red with blue.....very good.
Red with green.....harsh.
Red with yellow.....moderate.
Red with orange-red.....moderate.
Red with blue-green.....fair.
Red with green-yellow.....fairly good.
Red with violet.....bad.
Scarlet or vermilion with blue.....good.
Scarlet or vermilion with turquoise..good.
Scarlet or vermilion with green.....harsh.
Scarlet or vermilion with yellow.....moderate.
Scarlet or vermilion with violet.....bad.
Orange-red with blue.....good.
Orange-red with turquoise.....good.
Orange-red with blue-green.....harsh.
Orange-red with yellow-green.....moderate.
Orange-red with yellow.....moderate.
Orange with blue.....excellent, but powerful.
Orange with turquoise.....excellent.
Orange with green.....fairly good.
Orange with blue-green.....good.

Orange with violet.....fairly good.
Orange with purple.....moderate.
Orange-yellow with blue.....excellent.
Orange-yellow with turquoise.....fairly good.
Orange-yellow with blue-green.....moderate.
Orange-yellow with red.....poor.
Orange-yellow with violet.....good.
Orange-yellow with purple.....fairly good.
Yellow with blue.....good.
Yellow with turquoise.....fair.
Yellow with blue-green.....bad.
Yellow with green.....moderate.
Yellow with red.....moderate.
Yellow with violet.....excellent.
Yellow with purple.....good.
Greenish-yellow with blue.....good.
Greenish-yellow with turquoise.....poor.
Greenish-yellow with blue-green.....fair.
Greenish yellow with green.....fair.
Greenish-yellow with red.....harsh.
Greenish-yellow with violet.....excellent.
Greenish-yellow with purple.....good.
Green with blue.....poor.
Green with turquoise.....bad.
Green with red.....strong and harsh.
Green with violet.....moderate.
Green with purple.....harsh.
Bluish-green with scarlet.....fair.
Bluish-green with blue.....bad.
Bluish-green with violet.....good.

"Many of the combinations given above as 'moderate' and 'fair' can be much improved by darkening the lighter color, and where they are mentioned as 'harsh' they may be brought into better harmony by darkening both colors.

"Most of the bad or poor combinations may be made into agreeable harmonies when a third color is added to the group, which, on the other hand, may shatter

the harmony of a pair that combine well together. Thus yellow with blue-green is a bad combination, but if violet is introduced the arrangement is excellent. Scarlet and blue are a good pair, but if green or greenish-blue is added to make a triad, the combination will be disagreeable.

TABLE OF AGREEABLE CONTRASTS

1. Heliotrope and light amber.
2. Violet and amber.
3. Violet and light yellowish-pink.
4. Ultramarine and dark yellow-green.
5. Grey-blue and light golden-ochre.
6. Plum-purple and orange-amber.
7. Plum-violet and sage-green.
8. Brownish-yellow and deep warm green.
9. Dull orange and slate-blue.
10. Dull indigo and dull orange.
11. Slate-blue and greyish-yellow-green.
12. Claret and buff.
13. Deep blue and yellowish-pink.
14. Chocolate and pea-green.
15. Maroon and warm green.
16. Black and bronze-yellow-green.
17. Deep red and medium grey.
18. Venetian red and grey-yellow-green.
19. Coral-red and turquoise.
20. Chamois and lavender.
21. Deep crimson and yellowish-green.
22. Deep golden-yellow and sea-green.
23. Golden-brown and olive-green.
24. Pale turquoise and pale orange.
25. Deep blue and yellowish-green.
26. Indigo and light olive-green.

"All these color combinations would be improved if the colors were divided by lines of black, white, gold, or in some cases by a neutral grey.

"Any two colors, no matter how disagreeable they may look together, may be brought into harmony by the added help of another color in combination, and,

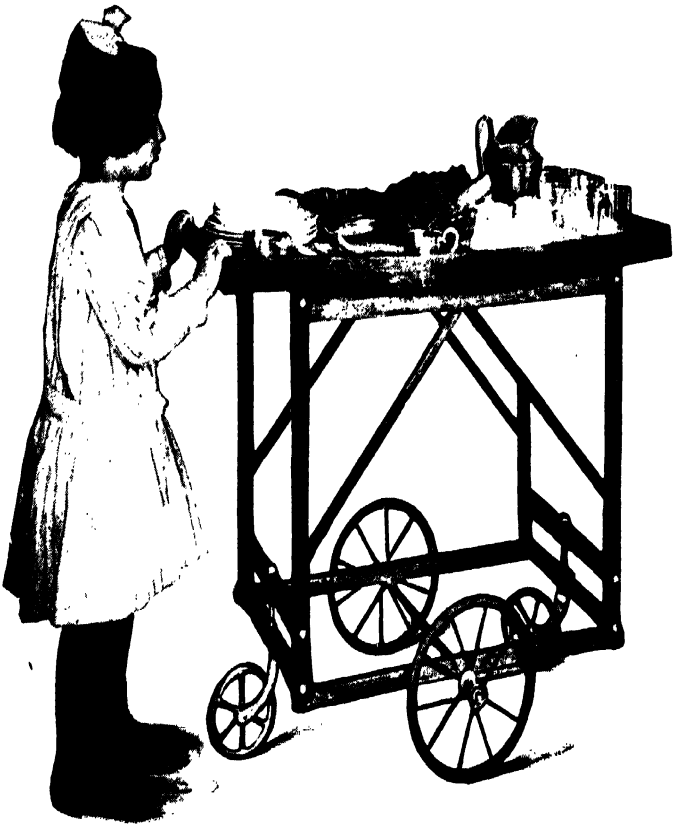
generally speaking, it is not a very difficult matter to obtain the color that is wanted to complete the harmony. The chief thing to observe in the selection of any three colors, necessary to form an agreeable arrangement, is that each color, or tone of a color, should be selected from equally distant, or nearly so, positions on the chromatic circle, and what is almost of as great importance, is to have *two* of the colors in the arrangement selected from the group of the *warmer* colors. Not only do these conditions obtain in the natural laws of harmonious coloring, but we constantly notice this preponderance of warm colors over the colder ones, in the best color schemes of the great colorists and decorative artists.

"The old mosaics of the fifth century at Ravenna have color arrangements of blue, gold, and green; the green is yellowish in the lighter parts, and is gradated into the blue ground in certain parts of the design, and here the gold supplied the place of red or orange, the whole being a perfect harmony.

"The favorite triads of the best Italian painters were—

Red, blue, yellow.
Coral-red, ultramarine, orange-amber.
Scarlet, olive-green, violet.
Orange, green, violet.
Purple, yellow, grey-green.

"In all these groups it will be seen that the warmer colors are in the ascendency, and each of the triads afford excellent color combinations."



A BUTLER'S TRAY ON WHEELS

Photograph Furnished by a Massachusetts Student of the A. S. H. E.

HOUSEHOLD CONVENIENCES

In reply to question 15 of Part II, "What suggestions have you to offer concerning household conveniences?" a number of interesting replies have been received. One student from Massachusetts sends in a photograph of a home-made butler's table on wheels. She says: "It is 39 inches long, 22 inches in width in the middle, and slants till at the ends it is 16 inches. This allows it to go through doorways without so much danger of bumping. The small wheels are put on like castors, on swivels, thus allowing the table to turn completely around, which is a great convenience. It is used for setting the table, clearing away the dishes, etc.

A number have spoken of the convenience of shallow closets or wardrobes when there is not space for a large closet. These sometimes have double doors that open the full width of the closet, thus bringing everything into view. Sometimes the lower portion is made into drawers.

One describes a chest of very large drawers that run on rollers and so are easily pulled out. Skirts were placed full length in these drawers.

Another tells of a horizontal curtain pole placed high up in a large closet. This is used for hanging of dresses, each on its own dress hanger. A stick with a hook on the end served to put up and take down the hangers. Others place the pole under the closet shelf where it serves a similar purpose of economizing space.

An ingenious arrangement for an ironing board is described by an Illinois student. The board is hinged at the wide end and has a hinged leg near the other end. When not in use, the board may be swung up into the narrow closet in which it fits, and the door closed. The closet contains the irons and other appliances and materials used for ironing.

A number have written of the convenience of a narrow space in the butler's pantry to receive extra table leaves when they are not in use.

A china closet described has a small space with upright slats in it, between which dinner platters are placed without fear of breakage. In the same house the space under the front stairs, which was too shallow for a closet, was utilized for a number of drawers.

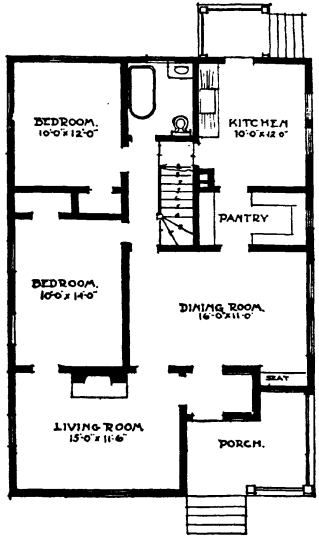
Clothes chutes from the bath room to the laundry and built-in refrigerators with arrangements for filling the ice compartment from the outside, as illustrated in some of the plans, seem to be fully appreciated.

Quite a number have spoken of the convenience of an upper balcony for airing bed clothes, brushing rugs, clothing, etc. A Philadelphia student writes: "Last year we made one change for the sake of our daughter, then three years old. This was the addition of a balcony. My husband said it would cost no more than many men spend for tobacco. The lumber was bought and a carpenter employed to build it. The roof of the second story serving as a foundation for the porch. A railing three feet high with an eight inch ledge makes a safeguard. The roof is of canvas.

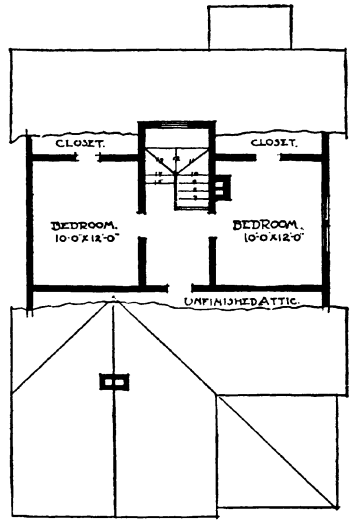
White lead was used between the floor boards to make the joints waterproof. A swing is one of the many things that the porch holds. The total cost was sixty dollars."

I have one kitchen convenience which I would suggest to housekeepers in Mexico or similar countries where it is necessary to lock the pantries. It is a long, low box with a hinged cover (something like a couch box) and is divided into compartments, which hold potatoes, onions, and other daily necessities in small quantities. One compartment is useful for holding all the old newspapers, which are put there for kindling.

Another convenience is the built-in end of my dressing room, which is arranged as follows: The top of the dresser serves as a shelf. Underneath this the space is divided into three compartments for about three feet. The center one is an open recess having hooks on the three sides. The left compartment is divided into three shelves for hats and shoes. The right compartment is divided by shelves into five compartments for the baby's clothes. The shelves are made of quarter-inch boards, removable for cleaning. Both these side closets are closed with doors, having spring latches and hooks on the inside of the doors. Below the three compartments are three shallow drawers made full width for skirts, and below these are four deep drawers made half width — two on each side — for shirt waists and pieces.

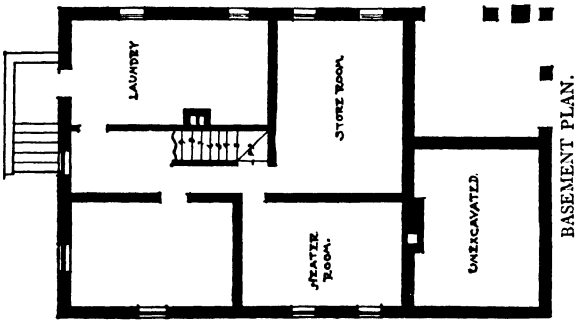


First Floor



Second Floor.

PLANS FOR A $2,000 COTTAGE



PLANS FOR A $2,000 COTTAGE

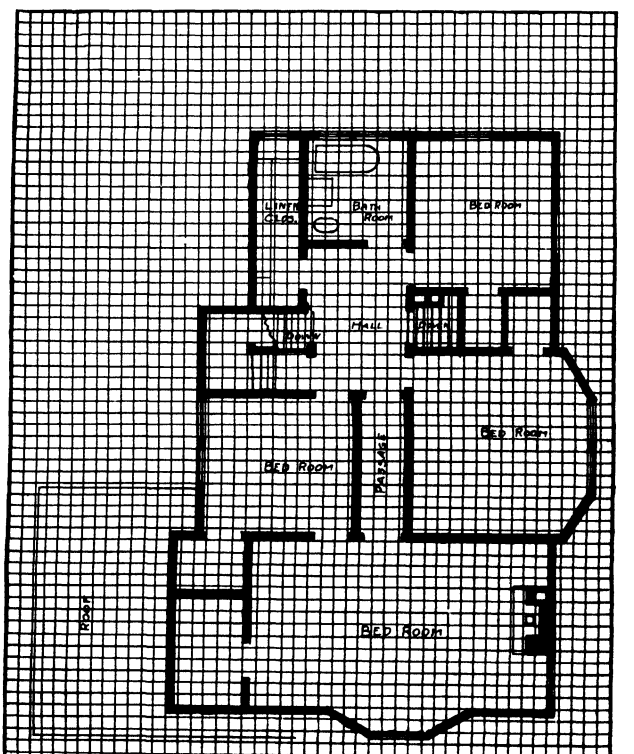
Several students have asked for plans of a cottage that might be built for $2,000. The accompanying plans give some idea of an inexpensive seven-room cottage with a bath room and with a laundry in the basement. Two rooms on the first floor are called bedrooms, although the front one might be used for a library if desired.

Some of the rooms might be made more attractive if bay windows were added, but any change from simple rectangular lines adds to the expense. The arrangement of the rooms should prove convenient for a small family.

COMPLETED HOUSE PLANS

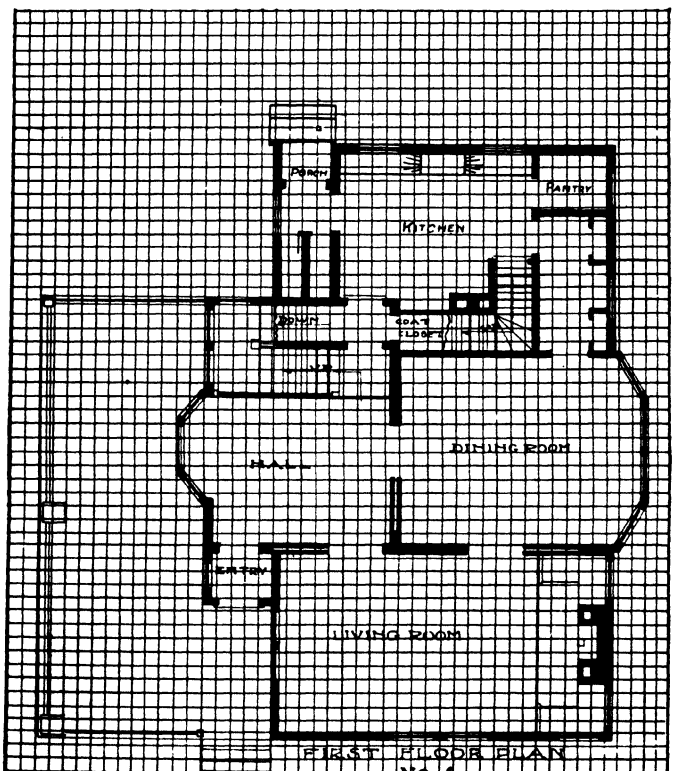
Question XI in Part II asks the student to complete the plan preferred of those illustrated in the text. Reprints of Plans 4 and 5 on cross section paper being furnished by the school, most of the students have selected one of them. Many have sent in good solu-

tions, but many more seem to have difficulty with the problem of adding the dining room and kitchen plan. All, I think, appreciate better some of the difficulties of the architect. The illustrations show how the arch-

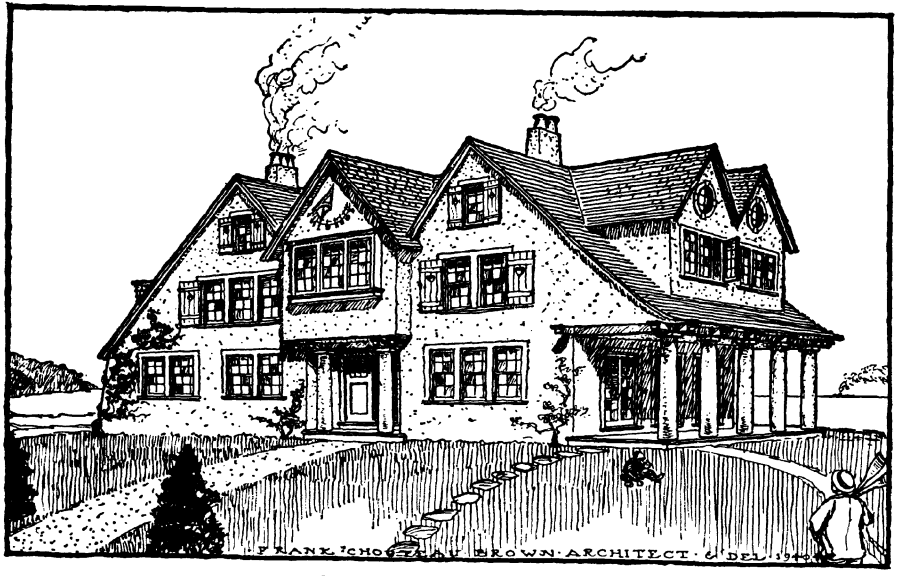


THE ARCHITECT'S COMPLETION OF THE SECOND FLOOR PLAN.

itects completed plan No. 4. The architect's solution of plan No. 5 is often sent to students with the corrected test.



THE WAY THE ARCHITECT COMPLETED PLAN No. 4.



MODERN SUMMER COTTAGE

THE COST OF BUILDING

FRANK CHOUTEAU BROWN, Architect, Boston.

There is no prospective owner or builder of a home but desires to know of some way of arriving at as near an approximation of its actual cost as it is possible in advance. The problem, difficult enough itself, is complicated by the constantly varying and shifting price of material and labor; as well as their great divergence in cost—especially in material—in the different parts of the country. With the possible exception of California, where labor is excessively high but many materials are cheaper than elsewhere in the country, and such cities as Chicago and New York, where the labor problem is unusually complicated by the labor unions, it is perhaps safe to consider that the prices current in Massachusetts and especially in the vicinity of Boston are at least as high as the average throughout the country. In the South, West and Northwest, most materials are considerably below the prices ruling in that location and, except under exceptional conditions, labor is also generally cheaper and more easily obtainable. Labor is both less skilled and less expensive the further you remove from the larger cities; while material—such as brick or lumber—may of course be obtained at a cheaper price nearer the place where it is made or milled.

FAVORABLE SEASON

Besides labor and material, it must be remembered that, throughout the country, the selected location and the individual contractor are factors that may influence considerably the cost of a building. A distant or inaccessible location, far from city, railroad, or water, increases the expense of obtaining material on the ground. The individual contractor figures more when work is plenty and his own concern is carrying along several contracts, than when there is less building, or when it happens that he is completing most of the work upon which he is engaged. In a year when building is very general in any locality, that fact will increase the average cost of building; unless a contractor is discovered who is not sharing in the general prosperity and rush of business. Even in a busy year, it will generrally be less expensive to start a building in the fall than in the spring—provided it is started early enough to complete the masonwork before the frost sets in—and so leave the carpenter to carry on the interior finish of the house during the winter months, when there is generally less demand for the services of his trade.

THE ARCHITECT A FACTOR

Thus far the individual owner or designer of the house has no control over its cost; but there are many ways—some of which may not be generally known—in which the arrangement of the plan and the treatment of the rooms or the exterior of the dwelling may become quite a factor in determining the compara-

tive cheapness or unnecessary expense of constructing the building.

When making his drawings, every conscientious architect should keep in mind those facts that he knows to affect the expense of a building, for there are many technical points of which it is impossible for the owner himself to be aware, that may exercise a considerable result toward adding or saving expense upon his dwelling. Certain of these may have to be explained to the owner before he will allow of some changes from his first idea which their consideration may necessitate. Others are too many and too involved for him to bother with, but must nevertheless be kept in mind by the architect while he is evolving both plan and design of the building.

SIMPLE PLANS LEAST EXPENSIVE

As a general rule, it may be said that a house in which the plan is simple and uninvolved, with square angles and rooms large rather than small, and with stories not too high, can be built at a somewhat less proportionate expense than an arrangement of which the reverse is true. It is not the plastering of a plain wall surface nor the laying of a floor in the centre of the room that takes time and extra labor; but rather the work in the corners and angles of walls and ceiling, the fitting of the border strips of the floor around jogs and angles in the plan—where material is sawn with a waste and extra labor is required to complete the work —all expense that would be saved on a simpler structure, with fewer rooms and their less fussy disposition.

A chimney costs less coming in a brick exterior wall that when isolated in the centre of a building; unless by so doing it is possible to make it take care of three or four rooms upon each floor instead of only one—as might be true of the other location. A single plumbing fixture placed by itself costs proportionately much more than two or three grouped together; while if they can be arranged to come over each other from basement to attic, a very considerable reduction in the cost of labor and piping may be effected.

INSTALLATION ADDS TO COST OF FIXTURES

It is comparatively easy to give the cost of a door, a window, a screen—or whatever other detail may be required in the construction of the house—but it must be remembered that this single item does not nearly express the cost of installing that individual fixture within the building. The door requires hardware and finish around the opening; the window the same, as well as presupposing the addition of blinds, screens, and, finally, in the furnishing of the house, curtains and hangings; while always there is an additional item —which cannot be expressed so definitely in figures— to cover the labor of making and framing the opening, of furring and plastering around it, and otherwise supplying the various extra material and time necessary before the fixture may be actually set in place.

SMALL HOUSES LESS PRETENTIOUS, SO LESS EXPENSIVE

As a rule the small house costs less per square foot of the area it covers than the large house, but this is merely because the house of larger first floor surface

generally presupposes a dwelling more expensive in finish and design. If the larger structure were built with the same finish, with as proportionately few door and window openings, it could actually be carried out at a less cost per foot of area than when condensed in a dwelling of smaller size; although heating and plumbing would average a slightly higher cost per fixture in the larger dwelling, because of the longer runs of piping required.

INITIAL COST AND TOTAL COST

Some years' experience has tended to prove to the satisfaction of the writer that the owner is too much inclined to look only to the initial cost of his dwelling and allows it to govern too greatly his determination of plan and selection of materials; when, as a matter of fact, a somewhat broader point of view would in the end save him a considerable amount of money upon the total of his investment. The installation of cheap floors, for instance, demands their eventual treatment with paint, carpet or other material—wearing out constantly and requiring as constant renewal or repair at a cost that, while comparatively small yearly, in the end totals up to a pretty considerable sum. A porch floor much exposed to weather or storms could frequently be originally laid in brick or rough tile at a cost but slightly more than finishing it in hard pine, which latter demands yearly treatment by the painter and probable renewal, in part or in whole, every few years.

The above amounts will vary with the varying prices of the materials named in the different sections of the country. The estimate on brick, for instance, figures that the selected hard burnt brick can be obtained at about $11.00 a thousand, which is not exorbitant for some sections, while in other portions of the country the rate may increase the cost of common brick to $18.00 or $19.00 a thousand.

The sudden increase in price between the brick veneered house and the brick 12-inch walled house does not show the proportionate costs of these two ways of constructing a dwelling; as the last item includes also the support of the building itself, whereas in all the others there is to be added to the cost of the exterior surface finish covering, the cost of the studding, boarding and papering (both the materials and the labor of setting in place). As a matter of fact, the house built with a 12-inch solid wall would not now cost over 10 per cent more than the brick veneered dwelling, after allowing for cost of studded wall behind the brick exterior veneer.

EXTERIOR FINISH

The walls of a house may be covered upon the exterior cheapest with clapboards, which require painting at least every two years and sometimes oftener. Shingles—those obtainable to-day—a somewhat better and more expensive wooden covering, are not of very long life and require considerable attention, whether stained or left to weather; while they are at their best

in appearance for what is, after all, a relatively short period.

Plaster as an exterior covering is somewhat more expensive but, with the exception of cracks and checks of merely surface extent, is a much more durable and attractive material. In many sections of the country and in the suburbs of most of our cities, brick—the rough-textured hard-burnt cherry-red kind is now considered best and most artistic—may be used either for a solid wall or for an outer covering veneered upon the wooden frame at a cost so little in excess of wood, that it will make up for its first additional expense within a half-dozen years, while its æsthetic advantages are of course obvious. Its use insures a permanent outer covering, proof against injury by weather or common accident, while it allows of the close surrounding of the dwelling by trees and the growing of vines directly over the wall surface—important considerations in the environment and appearance of the modern dwelling.

An idea of the comparative cost of the exterior finish materials mentioned may be obtained by contrasting the difference between their cost—*on the house*—over a surface of 100 square feet (a "square" in builders' measure), or 10x10 feet in dimension.

Clapboards (painted 3 coats)	$10.00 per 100 sq. ft.
Shingles (natural)	9.00 per 100 sq. ft.
Shingles (stained)	10.25 per 100 sq. ft.

Plaster (3 coats on metal lath)	12.00 per 100 sq. ft.
Brick veneer	15.00 per 100 sq. ft.
Brick 12-inch wall	40.00 per 100 sq. ft.

It must be remembered, too, that while the best of these suggested materials costs but a little more in the first instance than the less expensive and far less permanent coverings, and while it will indisputably earn back its extra initial cost in the mere saving of labor and maintenance; there is still another point of view from which the prospective owner of a building should closely regard this investment, and that is as to its appreciation in value in case it becomes at any time desirable to sell or dispose of the property. There are few people who can afford to entirely disregard this practical and commonsense point of view, even when planning so sentimental a problem as the home. This fact, if properly regarded, will rightly influence to a certain extent the plan and arrangement of the house, keeping it from departing too far from the conventional, and so preventing the use of extreme, outre, and fantastic ideas; while the well constructed modern appearing house of plaster or brick is always more readily salable and at a much better price.

METHODS OF ESTIMATING COSTS

The two most common means of estimating the cost of a dwelling are (1) judging of the comparative amount and expense of its finish—including masonry, frame, floors, walls and ceilings—and establishing a

(A) COTTAGE AT BASS ROCK, MASS.

rate per square foot of the area covered by the first floor and so arriving at the total cost of the dwelling; or (*2*) figuring up its cubical contents—from cellar floor to roof—and then as arbitrarily setting a price per cubic foot, and so obtaining an approximate total estimate. Both of these means may be employed, the one to check the other. While the first method seems the somewhat rougher and more hit or miss, it is yet, granted the estimator has the judgment and experience to propertly set the square foot cost—both the quickest and the one that is in most cases sufficiently exact for obtaining approximate estimates. As nowadays

(B) COTTAGE AT BASS ROCK.

there is but little difference in the height of stories in the house of average expense, the second, while apparently the more careful and accurate, is after all hardly any more certain. The accuracy of both will depend upon the amount allowed for the square or cube-foot cost, as the case may be, and the correctness of this item depends altogether on the experience of the individual making the calculation.

The figures given per square or cube foot that follow, are based upon prices in the vicinity of eastern Massachusetts, and include dwellings on good foundations, plastered inside and finished in pine or white wood, painted and stained, with hard pine floors, sim-

ple but good bath room fixtures, and with heating and plumbing, a laundry, and a cemented cellar under the completed house. It should also include a couple of chimneys, clapboarded or shingled walls, and any small sized simple porch, without additional allowance of area. For a large porch, or one having many columns and elaborate balustrades, some additional allowance must be made. If the second story is built out over the piazza, between one-half and two-thirds of the area it covers should be added to the area of the first floor before multiplying by the cost price per foot. No fixtures for lighting, no shades, or draperies, stoves, papering or other furnishings are included in the amounts given.

For a dwelling of about 1,000 or 1,500 square feet area, containing eight to ten rooms, the price per square foot will vary between $3.00 and $3.50, and the cubical contents could be estimated at from 10c to 12c a cubic foot. A house having eight rooms and covering 1,000 square feet, at $3.00 a foot would cost $3,000.00; and a ten-room dwelling with 1,500 feet area at $3.50 a foot would cost $5,250.00. The smaller dwelling, allowing 30 feet for its height, at 10c a cubic foot, would cost $3,000; and the other dwelling, the same height—but larger size—at 12c per cubic foot would come to $5,100.00. Such a building, with better interior and exterior finish or more expensive fittings or design, would possibly run to $4.00 a square foot ($4,000 on the small house, $6,000 on the large) or

15c ($4,500 to $6,750, on the two houses) or more per cubic foot.

If intended for a summer cottage, without some of the various items which become necessities in a dwelling used all the year—such as interior plastering, basement laundry, furnace heat, etc.,—the cost might be reduced to the neighborhood of $2.50 a square foot ($2,500 to $3,750) and 8c and 9c a cubic foot ($2,400 to $4,050); while in exceptional instances, where local conditions were favorable and the plan was inexpensive in arrangement and treatment, it might even be possible to get the cost down as low as $2.00 per square foot.

For a somewhat larger house, say from 1,500 to 2,500 feet area, the cost would run from $3.50 to $4.50 per square foot, with a mean average of $4.00 ($6,000 to $10,000); and from 12c to 16c per cubic foot. This would mean a total cost of from $5,450 for the smaller size and price, to $12,000 for the larger. If of 2,500 feet area or over, the price would run at an average of $5.00 a square foot, and the cubic foot cost from 15c to 18c.

Such small dwellings as those shown at A and B, consisting of 9 rooms each and containing almost exactly the same amount of area (1,026 and 1,040 square feet respectively) and cubical contents (30,780 and 31,200) would agree with the rules given. At $3.00 a square foot they would cost $3,078 and $3,120; at 10c the cubic foot the same respective figures. House A

actually cost just over $2,800 and House B, about $3,200.

The Colonial House containing more elaborately designed finish, Oak and Maple floors and mahogany doors and mantels comes into quite another class. Covering about 2,658 sq. feet and allowing for porches 310 sq. feet more (about one-third their area—they are only half covered) a total of 2,968 sq. feet is the result. At $6.00 a foot this equals $17,898; and its cubic contents—100,912 ft. at 18c a foot—equals $18,164.16. The cost of this house ran somewhat over $18,000. (See page —.)

ITEMS IN THE CONTRACT

On a five thousand dollar wooden frame house, the various items included in the contract would probably average about as follows:

Foundation and Chimney	$ 680
Framing	420
Lathing and Plastering	350
Interior Finish	320
Exterior Finish	225
Painting	275
Plumbing	490
Heating System	320
Hardware	125
Carpenter Labor	1,625
	4,830
Architect (5% of the cost)	241.50
	$5,071.50

Of course hard digging or gravel on the lot would increase or lower the cost of this item, while the sum set aside for "finish," inside and out, depends altogether upon the design of the dwelling. While this schedule will vary somewhat in its different items in almost every instance, still as it was compiled from averages obtained from a number of small houses of about the same size and cost, but of different styles, it should prove approximately correct, sufficiently so at least, to act as a guide for obtaining the preliminary estimates.

The above tabulation is based solely upon an approximate size of house with the average corresponding quality of finish and architectural treatment that would ordinarily be expected to accompany an American dwelling of that size. It must be remembered however, that these figures merely offer a mean basis for comparison. If expensive systems of plumbing and heating are installed, if hard wood is used largely for finish and oak for floors, if the mantels are elaborate and the rooms are finished with beam ceilings and dados, the expense can be run up very quickly to far beyond these approximate figures; while on the other hand, by keeping the finish down and with an economically arranged plan and disposition and installation of plumbing, heating, etc., it is oftentimes possible to obtain an attractive and modestly designed home at a corresponding reduction from the estimates given.

It is always possible, for instance, for the architect

to use a porch finish—as on the cottages A and B,—that will be both simple and effective, for a sum which will be considerably less than a finish much the same in appearance, but requiring heavier stock and more workmanship; and this depends largely upon the judgment and training of the architect as well as his disposition and judgment of his client's actual desires. The finish on the first cottage (A) is simpler in effect but in reality about as costly as the columns and simple rail shown on the second small dwelling (B). Such balustrades and columns as on the porches of the Colonial house at Wellesley, however, will cost more than double the simpler porch finish of those cottages.

THE IDEAL AND THE REAL

It rarely happens that the house-builders ideas of what he wants to pay and his requirements as to number of rooms, their size and location, are co-ordinated one to the other. Almost invariably his desires are greater than his set limit of price can secure. Also he is not to be satisfied with the architect's mere statement of this fact; but is only convinced by having the house that he desires drawn out and estimated; when he either has to cut it down, and so sacrifice many of his pet ideas, or else make up his mind to pay the larger amount that his ideal will cost. Generally a satisfactory compromise is arrived at. Certain things he is willing to give up; certain others he is willing to pay for the privilege of securing.

The architect is often confronted by a client demanding a house at a cost and of a size that will not possibly give him the kind of dwelling that he really desires and with which alone he will be satisfied. If the mistake is made of starting a plan intended to meet the clients expressed wishes, either the house when finally built will cost greatly more than such a plan rightly demands; or the scheme is abandoned and an arrangement better suited to the client's needs substituted in its place. In the first event the client remains forever unsatisfied; and in the latter much unnecessary time and energy has been lost by both parties. If the owner—as frequently happens—states at the first an amount less than he actually intends to expend, a similar result is to be expected.

COST OF FIXTURES

The cost of the various items that go to make up the house may be stated with fair exactitude, although it is doubtful if the attempt to estimate such minor details is not, after all, more confusing than beneficial to one inexperienced in house building; as all these details are already included in the general methods just given for approximately estimating the cost of the completed dwelling.

For plumbing, it is possible to say that the cost of installation—including labor and simple but good fixtures—will average from $50 to $75 per fixture, depending upon whether the house is small or large; while if more elaborate or expensive individual fix-

tures are employed, the cost may run to over $100 an outlet.

For heating, the hot air furnace should cost between $20 and $25 per register in the small house, while running to perhaps $30 or more on a larger dwelling. If a combination hot air and hot water heater is used, it may average from $35 to $40 an outlet. For steam, the cost on a small or large house will probably vary from $40 to $45 per radiator with an additional 25 per cent increase for hot water.

It is customary in some sections to estimate from a dollar to $1.25 an outlet for gas; and about $1.50 or $1.75 an outlet for electricity, the latter sum including switches as an outlet, wherever they occur.

Window screens may be obtained for from about $1.25 to $2.25 a window, depending upon the material of the frame and the quality of the wire employed; the lower price being for wood frame and steel japanned mesh, while the more expensive would generally cover the cost of a metal and bronze wire window screen. Screen doors of pine will run correspondingly from $6.00 to $7.50 apiece; with metal weather strips for windows at about $2.00 to $2.50 and for doors from $3.50 to $4.00 an opening.

The cost of doors and windows depends upon both their design and material. Stock doors of the cross panel, or four upright panel, type can be obtained in so-called pine (generally actually Washington Fir), Carolina Hard pine, or Birch for about $2.50 apiece.

The frames will cost from $1.25 to $1.50, and the architrave finish upon both sides probably $2.00 more, making each opening cost about $6.00 or with hardware a total of about $8.00 a door; not allowing anything, however, for labor in fitting, hanging, and finishing around openings, etc.

A window costs—for the frame—between $2.50 and $3.50, with sash costing from $2.00 to $3.00 and, with hardware and architrave finish, the whole would probably run to about $10.00 an opening.

These sums will only apply to those sizes and designs that are near enough to the stock patterns to be handled by the concerns manufacturing these specialties in large numbers. For special mouldings, designs and sizes, or for work executed in more expensive wood, such as oak and mahogany, a considerable difference in cost will at once manifest itself.

Storm windows range from $1.50 to $2.50; with window blinds at between $1.00 and $1.50 an opening.

A fireplace will cost about $40.00 for facing and hearth with about $30.00 more for a mantel. This is additional to cost of chimney. It will add perhaps $25.00 to the latter for each fireplace after the first one it carries. In more important rooms the mantel will cost more than the sum given; in bedrooms suitable facings may be obtained for less; but the above amounts will stand for fair averages.

COST OF FINISHING WOODS

The cost of woods for finish—as has already been said—varies in different sections of the country so extensively from time to time, that it is impossible to give any exact price by which they may be compared. In general, however, they bear a certain relation to each other which may be suggested by the order in which they are named. In most portions of the country, cypress and whitewood may be obtained at about the same price, the former having a considerable beauty of grain, and the latter varying in color from white to quite dark. It becomes more and more difficult year after year to obtain good stock in the cheaper finishes, especially in whitewood. While both shrink rather considerably, if anything, the advantage belongs with the cypress. Hard pine and ash are more expensive than the first named materials for finish. Sometimes the latter may be used very effectively in a way that suggests oak.

Birch and cherry, or redwood and cedar are employed for standing finish in some localities, while of late years spruce has begun to be used in summer cottages, as it is somewhat cheaper and not much more objectionable than the "country pine," which is about the only variety of this wood that now comes within the range of the ordinary pocket-book. Both redwood and cedar are considerably less expensive in the western part of the country than in the east.

Oak is an expensive finish that is less used now than

a few years ago, when its popularity almost equalled that obtained by black walnut in the preceding decade. In part this is because it is difficult to obtain it in the best grades, and often a selected ash will give a finish quite as pleasing as that of the lower grades of the more expensive oak. Mahogany still remains the favorite wood for Colonial finish and treatment, but on account of its expense, various substitutes for it are continually being used. Of these cherry and sycamore are the most common; and cherry, by the way, may in its turn be well imitated by selecting whitewood and then finishing it carefully over a stain.

WHAT IS "FINISH"?

Although possible materials are comparatively few in number; of variety of design in their finish and treatment there is no end. The word "finish" has, architecturally, two meanings. In one sense it applies only to the surface treatment and protection of the woodwork, in which case its consideration comes entirely within the province of the painter; but there is a broader meaning than this, where it applies to the woodwork used for the final covering on both inside and outside of the house,—when it is referred to as "interior finish" and "exterior finish," as the case may be. In this meaning not only is the kind of wood included, but also the general design and treatment in which this "finish" is carried out. It may be said that a room is "finished in hardwood" (there meaning the material alone); "finished in shellac" (here referring

only to its painted applied surface); or "finished in the Jacobean style" (here referring only to the architecural design and treatment of the walls and ceiling of the room). Of the materials for interior finish something has already been said. As to its method of treatment by the painter, this should often be decided by the style of design of the room; to which certain finishes only are sometimes appropriate.

PAINTING OF INTERIOR WOODWORK

A room of Colonial design is ordinarily best carried out in cream-white painted woodwork, as was done in most residences of the Colonial period, frequently the doors being of mahogany. This offers a pleasureable contrast, and the white woodwork is best adapted to showing off the delicate furniture of that period, generally mahogany, with which a room of this style only should be furnished. Occasionally, a room in a very elaborate dwelling may be carried out entirely in mahogany, although this was rarely done in actual Colonial times; where occasional rooms—such as halls or libraries—were almost as rarely finished in oak. A room of English architectural character may be most appropriately carried out in oak, stained dark in tone. Less frequently rooms of this period were executed in mahogany or walnut and very often their woodwork was painted and handled in a way not unlike our present so-called "Colonial" finish. The modern English, or so-called "mission style" of furniture, requires room backgrounds of similar simplicity and

with oak or ash finish stained and treated in the same manner as the furniture itself. Sometimes appropriate and simple rooms of modern design may have their standing finish—even when of a soft wood or whitewood—stained and finished in a like manner.

Painted woodwork should receive one coat of shellac varnish to prevent the sap, which is now very frequently in the wood placed upon the market, from coming through and staining the surface of the paint. Upon this first coat there should be applied four coats of paint, this number being about the least that can be depended upon to thoroughly cover the stock. Even then, if whitewood and pine are used side by side—such as for architraves and door, for instance—it is quite possible that a difference between the two colors of white may be noticeable, the pine door being of a warmer, creamier tone and the whitewood being a little more toward the gray white. The least expensive way of finishing painted woodwork is to put a little varnish in the last coat and so impart a slight gloss to the surface.

When the more expensive enamel finish is desired, the painter uses more stock and each coat of paint is rubbed down with felt and pumice-stone until it is given a dull lustre or flat polish. From six to eight coats of paint are necessary to obtain the best effects. Such painted finish should only go over certain kinds of moulded woodwork, as where many sharp exterior angles break up the surface, the painters are likely to

rub entirely through the paint down to the surface of the wood, which is then exposed and left unprotected at these places.

FINISHING OF HARD WOODS

Where mahogany is finished to go with Colonial white woodwork, it should be shellaced and varnished four to six coats in all. Each coat of varnish should be rubbed down to the same dead lustre that is found in old furniture. The better the finish, the greater number of coats will be of varnish and the fewer of shellac, as the more expensive varnish furnishes the better surface for wear and polish. Any surface where water or hot pans and dishes may be placed, such as the upper shelf in a side-board or a table top, if of hardwood, should be finished, polished and rubbed down in oil; if the ordinary stock is used, it will show all the marks made by water or heat, while with an oiled surface such blemishes can be easily wiped off with a damp rag.

Where oak is used for "standing finish" (i. e. the upright wood-moulded finish placed upon the walls of a room, and around doors and windows, including base or mop boards, etc.,) it should be finished in shellac or varnish, or with a waxed surface, according to the effect desired. Wax treatment is generally given by using a semi-fluid composition which is put upon the wood with a rag, and then polished as dully or as highly as may be desired. Hardwood, along with cypress, whitewood and pine or spruce, are frequently

stained in order to bring out the grain and fibre of the wood the more effectively. Some of the best modern finish, especially that on furniture and fine cabinet work, is now obtained by means of burning the wood with acid or ammonia, or "fuming" and smoking it, and so bringing out the grain in this way instead of by a liquid stain, which is too likely to fill up, overlay and obscure the grain instead of bringing it out to the best advantage. The staining of a piece of wood is always the first thing done; the remainder of the painters finish, the shellac, varnish, wax, etc., being applied on top of the stain.

STYLE OR DESIGN OF WORK

As to the style of treatment of the woodwork it may be that in the matter of interior house finish both client and architect are too easily and generally ruled by conventional ideas. The client desires to reproduce the appearance of a room sometime seen and liked by him, without regard to its appropriate relation to the atmosphere of the rest of his dwelling. The architect is too prone to follow periods and styles that, in the inexpensive American dwelling at least, frequently appear over-pretentious and out of harmony with the life of its occupants. A certain amount of experimentation along newer lines could here be undertaken with advantage by both parties.

In the summer cottage especially, there are many ways of obtaining attractive effects inexpensively that are perhaps less suitable to the more restrained conven-

tions surrounding life near the city, or to the dwelling inhabited for the major portion of the year. Rough plaster stained one coat, for instance, is much more attractive than the same color rendered monotonous in tone by its even application in coatings several times repeated. The simpler life during the summer allows of the introduction of the element of accidental informality into the design of the country or sea-shore dwelling. This meaning may perhaps be best and most exactly illustrated by quoting actual happenings that have come within the writer's immediate experience.

"ACCIDENTAL INFORMALITY"

In one instance a dining room was designed with a simple panelled effect of wide boards with the joints covered by narrow moulded "battens." The mill getting out the finish asked for further time to complete the contract for this especial room as they had not stock of sufficient width available, except some which had been thrown aside as imperfect on account of discoloration and worm holes. The curiosity of the architect being aroused, he made occasion to visit the yard to see this stock and found his anticipations more than realized by discovering it to be a whitewood (the material specified) of the necessary width, to be sure, but liberally colored in beautiful reds, yellows, browns, and pinks, while the figuring of the wood itself varied greatly from light to a rather dark tone which handsomely brought out its veining. Realizing the possibilities, it did not take long to come to an understand-

ing with the contractors whereby they were only too pleased to be allowed to make use of this material,—and affording the owner a considerable reduction for the privilege!—while, by changing the finishing of the wood to a very light gray stain with waxed surface, a room in appearance quite as handsome as though very expensive imported woods had been employed was finally obtained at a really absurd cost.

Again; an unusual delay in the installation of some fireplace facings sufficiently aroused the ire of the architect to cause him to descend upon the workshop of the defaulting contractor with the intention of relieving his mind orally and in person. The visit developed the fact that the delay had been caused by the shipment from the factory of a lot of tiles which did not equal the sample selected by architect and client, and the contractor insisted that until he received a shipment of perfect material from the factory, he could not install the fireplaces that had been estimated. The discolered tile being exhibited, it took but a glance to perceive that whereas the sample selected had been a rather flat and characterless pale cream-colored tile; these "defective" specimens had been tinged in their firing by varying and changing modulated tones of yellows, umbers and browns, in just such a way as to emphasize their design most delicately, and to form, in combination, a fireplace facing and hearth of much more character and artistic value than would have resulted if the original intention had been followed out.

Of course both of these opportunities could not have been availed of if the architect had not been sufficiently assured of his client's ability to appreciate the artistic and unusual effects thus accidentally procured; yet this "accidental" element appears so frequently and so unexpectedly in the evolution of house after house that to obtain the best results, the designer and his client should be at pains to work together harmoniously and remain open to accept and make the most of just such accidental happenings as they arrive.

HOW TO KEEP THE COST DOWN

If one were asked what single factor most added to the cost of a building there could be no doubt but a truthful reply would be that *changes* made by the owners during or while the building is in process of construction are more universally the cause than any other one thing. Yet this in itself is easily avoidable—provided only that architect and owner once arrive at a perfect understanding, that sufficient time is taken before actual work is commenced to study over the possible variations in plan and finish and to mutually decide which will the better meet the points involved—that it seems inexcusable that such should be the case. But time after time, to begin actual work but means the beginning of making changes on the plan, until additional and unnecessary expense is incurred to an amount that is often ridiculously in excess of the benefits achieved; the final result being rarely as good as the arrangement determined upon

in the first instance. Unless one is accustomed to the different aspects under which a building and its individual parts will appear while in course of construction, one is not able to judge what its effect will be when completed. The unduly small and apparently low room, when only studded out or rough plastered, appears of quite different and much more capacious proportions when completed and finished; and so it goes throughout the entire dwelling, until the old answer to the jesting query as to "How to Build a Dwelling Cheaply," "Keep the Owner Away Until It Is Finished," is proven to be a most serious and learned bit of practical philosophy.

SUPPLEMENTAL PROGRAM FOR CLASS STUDY
ON
THE HOUSE, ITS PLAN, DECORATION, AND CARE

By Isabel Bevier, Ph. M.

MEETING I

(Study pages 1-20.)

Evolution of the House.

Woman's Share in Primitive Culture. Chapter I. ($1.75, postage 16c.) O. T. Mason.

Household Economics. Chapter II. ($1.50, postage 16c.) Helen Campbell.

Evolution of the Home. Vol. X, Page 509. Andover Review.

The Dwellings of Primitive Man. House Beautiful, January, 1904.

Quiviras and the Wichita Grass Houses. Harpers, Vol. 99, p. 126.

The House Beauiful. ($0.50, postage 6c.) W. C. Gannett.

Topics: Place of Architecture in Civilization
Relation of Architecture to History and Art
The Home as the Center of Life

MEETING II

(Study pages 20-47.)

Development of the American House.

American Renaissance. ($4.00, postage 30c.) Joy Wheeler Dow.

Cost of Shelter. Chapters I and III. ($1.00, postage 10c.) Ellen H. Richards.

Early Connecticut Houses. ($4.00, postage 24c.) Isham and Brown.

Homes in City and Country. ($2.00, postage 18c.) Sturgis, et al.

Stately Homes in America. ($7.50.) Chapters 2, 3 and 4. Desmond and Croly.

House Beautiful. ($2.50, postage 20c.) Introduction. Cook.
Beautiful Houses. Chapters 1 and 2. ($2.50, postage 24c.) Gibson.
Evolution of Domestic Life in America. House Beautiful, Vol. XII, p. 281.

Topics: Description of a Colonial House (of the neighborhood)
The Apartment House as Affecting Family Life
The House of the Future.

(Select answers to test questions on Part I. and send them to the School.)

MEETING III

(Study pages 49-98.)

(a) The Modern House.

Household Economics. Chapter III. ($1.50, postage 16c.) Helen Campbell.
Home Economics. Chapter I. ($1.50, postage 16c.) Maria Parloa.
The Cost of Shelter. Chapter V. ($1.00, postage 10c.) Ellen H. Richards.

(b) House Planning.

How to Build a Home. Pages 1-10. (Out of print.) F. C. Moore.
Home Economics. Chapter I. ($1.50, postage 10c.) Maria Parloa.
House that Jill Built. ($1.00, postage 10c.) E. C. Gardner.
House Planning. ($1.00, postage 8c.) Osborne.
The House Book. ($1.50, postage 14c.) Kline.
The Book of One Hundred Houses. ($3.20, postage 16c.) From The House Beautiful.
Collect plans from The House Beautiful, The Craftsman, Delineator, Ladies' Home Journal, Architects' and Builders' Magazine, Architectural Record, Etc.

Topics: House Analysis, or Where to Begin in Planning.
The Aesthetic Side of House Planning, or Residence Design.
The Ideal Kitchen.

(Select answers to test questions on Part II.)

MEETING IV

(Study pages 101-102.)

(a) Construction of the House.

The Farmstead. Chapters 6 and 8. ($1.25, postage 12c.) Roberts.

Article by F. C. Brown, March, April, and May, '06, Good Housekeeping.

Stairs, Windows, Floors—See series in House Beautiful, 1905-1906, R. C. Spencer.

(b) Floors.

Care of House. Chapter 12. ($1.50, postage 16c.) T. M. Clark.

Home Economics. Chapter 12. ($1.50, postage 16c.) Maria Parloa.

Topics: Cost of Building.
Woods Used in House Building.
Outside Finish.

MEETING V

(Study pages 123-151.)

(a) Decorating and Furnishing.

Kinds of Art. "Household Economics." Chapter V. ($1.50, postage 16c.) Campbell. Also see Encyclopaedias.

Principles of Home Decoration. ($1.80, postage 16c.) Candace Wheeler.

Art of the House. (Out of print.) Watson.

Claims of Decorative Art. (Out of print.) Walter Crane.

Household Art. Progress of American Decorative Art. ($1.00, postage 10c.) Wheeler.

Household Art. Limits of Decoration. Wheeler.

Hopes and Fears for Art. ($1.25, postage 12c.) William Morris.

Beginnings of Art. ($1.75, postage 14c.) Grosse.

Philosophy of Beauty. (Two parts, each $1.00, postage 10c.) Knight.

(b) Household Decoration.

Household Economics. Chapter 6. ($1.50, postage 16c.) Campbell.

Decoration of Houses. ($2.50, postage 20c.) Codman and Wharton.

Homes and their Decorations. ($3.00, postage 26c.) L. H. French.

Color Harmony and Contrasts. ($4.20, postage 16c; printed in colors.) James B. Ward.

(c) Furnishings and Furniture.

Household Economics. Chapter 6. ($1.50, postage 16c.) Campbell.

Furniture of Olden Times. ($3.00, postage 24c.) Alice Cary Morse.

See Magazines—Country Life in America, Harper's Bazar, House Beautiful, etc.

Topics: Elimination in Furnishings
The Setting for the House or the Surroundings.
Curtains—Their Use and Abuse.

MEETING VI

(Study pages 152-165.)

(a) Care of the House.

Home Economics. Chapters 14-16. ($1.50, postage 16c.) Maria Parloa.

Care of the House. Chapter 12. ($1.50, postage 16c.) Clark.

(b) Conveniences.

Convenient Houses. Chapters 1, 2, 5 and 6. ($2.50, postage 24c.) Gibson.

See Magazines.

Topics: Rugs and their Care. See Rugs, Oriental and Occidental. ($3.50.) Rosa Bell Holt; and Oriental Rugs. ($7.50.) J. K. Mumford.
The Town Beautiful, or Village Improvement.
Home-making as a Professsion.

(Select answers to test questions on Part III.)

Note.—For further references and topics, see syllabus on Shelter, prepared by Lake Placid Conference on Home Economics. Price 5c, of the School.

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