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FILM and EDUCATION

FILM and EDUCATION

A Symposium on the Role of the Film in the Field of Education

Edited by
GODFREY M. ELLIOTT
Editor-In-Chief, Young America Films, Inc.



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Preface

This book has but one major purpose—to present within the useful limits of one volume a comprehensive survey of the present and potential uses of the 16mm educational motion picture in our modern society. It is a task which defies any single writer; the variety of film uses and the experience required to write about them are beyond the ability of one individual. For this reason, *The Film and Education* is the deliberate product of thirty-seven writers, each one discussing a phase of educational film use with which he is most thoroughly familiar.

It should be emphasized at the beginning that the word "education" is used here in its broader sense—*i.e.,* "the acquisition of knowledge or skill." It is a connotation of the word which encompasses both schooling and training, whether formal or informal, whether in school or out of school. It relates to that acquisition of knowledge and skill which occurs in school, factory, business, church, or in any one of a dozen or more aspects of everyday life. The term "educational film," therefore, as used in this book, refers to the motion picture in any and all of its uses where it intended to inform, orient, or motivate its audience to some useful end. In this sense, the educational film includes such categories as teaching film, business film, informational film, documentary film, religious film, training film, sales film, and many more. If this book seems to give an undue amount of space to uses of the film in the schoolroom, it is because film applications in that area are more particularized and the research and writing more definitive. It would be totally incorrect to assume that the worth of

the film in any particular area is in proportion to the amount of space given to it here.

The major emphasis is upon *application* of the film, rather than upon techniques of production or usage, with the conscious attempt to sketch in the full outline of the amazing role which this medium of mass communication plays in our lives. Adequate treatises exist on the techniques of film production and utilization; these are specialized problems which basically cut across all areas of film application. However, in discussing applications of the film, it is impossible to escape some critical discussion of production and utilization; where it does enter, it is incidental to the main purpose of the discussion. At the same time this major purpose is fixed in mind, it is hoped that the reader will understand that rapidly changing conditions in the educational film field defeat any attempt to make such a book the "last word" on the subject. Conditions are changing faster than proof can be corrected.

Heretofore, discussions of this nature have been found largely in current periodicals or in yearbooks or symposia dealing exclusively with some special area of application. Here, then, is a putting together of many specialized views of the educational film, so that one can say, "Here is the whole picture of the broad scope of educational film usages, and here is what a competent reporter has to say about the breadth and depth of its applications in each specialized area of use." An examination of the list of contributors to this book will bear out the fact that each of them is thoroughly competent, by reason of experience and training, to speak and write upon his special area of interest. Each is, so to speak, an "on the spot observer" of the educational film at its work.

It is fitting that I express my appreciation to every one of the contributors whose work is contained in this volume; without their sincere cooperation such a book would have been completely impossible. Each of them has given assistance,

not only through the preparation of his individual chapter, but in the preliminary planning for the outline of the volume. Within the general framework of the purpose of the book, each contributor has written and reported as he has observed and as he honestly believes. There has been no dictating to them of attitude or opinion.

My gratitude also extends to all those individuals, too numerous to name, who gave valuable assistance in preliminary stages by criticizing outlines and suggesting contributors for this book. Their efforts have contributed to making this a better book than it otherwise might have been.

It has been said that the film is potentially a more powerful medium of communication than any other that mankind has yet developed; that the perfection of the motion picture may in time overshadow the invention of the printing press in its cultural significance; that the film is potentially the erradicator of illiteracy and ignorance and the catalyst which can bring about desirable social reactions. I am sure that I speak for my thirty-six co-authors when I voice the sincere hope that *The Film and Education* may in some manner contribute to such ends as these by promoting more widespread and better uses of the educational motion picture.

Godfrey M. Elliott
New York City, N. Y.
May, 1948

PART ONE

The Nature of the Educational Film

CHAPTER I

THE GENESIS OF THE EDUCATIONAL FILM

GODFREY M. ELLIOTT
Editor-In-Chief, Young America Films, Inc.

It is one of the strange paradoxes in the educational film's history that the motion picture was developed largely for educational purposes, only to have that purpose engulfed in a wave of commercial entertainment exploitation, then to be "rediscovered" more than a generation later as "the marvelous new tool of education." Persons who hailed the motion picture during and just after World War II as a powerful contribution to better education were correct in their assessment of its values, but they were many years late in the discovery of what they thought was a new use for the motion picture medium. Ever since its development, in the closing years of the last century, the motion picture has been a known potential factor in education, both in and out of the schoolroom. It has awaited only proper attention and wider recognition to make itself felt as a powerful teaching and training instrument.

The Search for Action Photography

When Eadweard Muybridge, during 1872-78, succeeded in capturing the movements of a galloping horse in a series of synchronized still pictures, he paved the way for the development of the motion picture. For centuries man had known the physiological phenomenon of *persistence of vision* and had used it to *simulate* motion by flipping or otherwise exposing a rapid succession of drawings.

As early as the year 130 A.D., Ptolemey discussed persistence of vision and its demonstration in a series of lectures on

optics, but the phenomenon remained little more than a physiological curiosity until the nineteenth century. In 1832 Joseph Plateau, of Ghent, put together a crude mechanical device which could give the viewer a sense of life-like motion by looking at a rapid succession of drawings, and which he called the Phenakistoscope. Two years later, in 1834, W. G. Hornor took Plateau's device and improved it. The result was his Zoetrope, or Wheel of Life.

But through all these years, the men of science and arts were doing little more than demonstrating and proving the persistence of vision. In every case, they were dealing solely with drawings. The faithful reproduction of life action was still ahead of them. But it existed there as a goal, for as early as 1860 the Englishman, Sir John Herschel, was making a daring prediction in *Photographic News*: "What I have to propose may seem to you like a dream, but it has, at least, the merit of being possible and indeed at some time realizable. Realizable —that is to say, by an adequate sacrifice of time, trouble, mechanism and outlay. *It is representation of scenes in action by photography.*"*

It remained for Eadweard Muybridge to set the stage for the first of the two chain reactions which were to make the motion picture an actuality. Muybridge, a skilled photographer, had been ambling through the Rockies and the western coast of America doing private and commercial photography and was, by fortunate coincidence, in California when Governor Leland Stanford and a group of friends fell into an amicable argument. Governor Stanford, who was also a wealthy horseman, argued against his friends that a galloping horse at some moment in its stride had all four feet off the ground. The argument was hot, and the result was a wager of $25,000. But the problem was how to prove it, for the action was too fast for the eye. How Stanford happened to meet with Eaweard Muybridge we don't know, but it was a fortunate meeting, for here was a photographer with an inquisitive turn of mind.

*Italics added.

So it was that, in 1872, Muybridge set out to help Leland Stanford win his wager. Setting up a battery of cameras around the rim of a race track, Muybridge took a rapid succession of still photographs, hoping that one or more of them would catch the horse's action in such a way as to prove Stanford's point. His equipment was the bulky camera and the slow wet plates of that day. The results of the experiment were disappointing from a photographic point, for it required an extremely short exposure time to freeze the action of the galloping horse. Of the series of twenty or more plates which Muybridge exposed, only four gave him an acceptable image, but at least one of these was sufficient to win the wager for Governor Stanford.

From 1874 to 1877, Eadweard Muybridge suffered a succession of personal misfortunes, but in 1877 he was back in California again under the sponsorship of Leland Stanford. With adequate financial backing, and with better equipment and expert assistants, Muybridge succeeded in getting a perfect set of synchronized still photographs, each taken a split-second apart, showing a horse moving at a gallop.

At the same time, men in other parts of the world were not idle. In France, Etienne Jules Marey had been investigating ways and means of photographing the locomotion of man and animals, and was far along in his work when the published reports of Muybridge's work reached him in 1878-79. Here, another of those curious coincidences occurred in the history of the motion picture. Governor Stanford had gone abroad during this period, and had decided to have his portrait painted by the well-known French painter, Meissonier, who was also a good friend of Marey. Meissonier, fairly recently, had painted a picture in which he showed a galloping horse with all four of its feet off the ground. His colleagues contended that this was a fundamental error, and Meissonier was still smarting under their derision when he and Stanford met. Needless to say, Meissonier was delighted to find proof for his contention, and Stanford immediately met Marey. Through this meeting

Marey learned more of the work done by Muybridge in America, and these two met and talked at great length when Muybridge visited France in 1881.

Muybridge returned to America full of enthusiasm for his work, and continued to use his battery of synchronized cameras in the interests of science and art. His studies of the human figure and animals in motion are highly regarded still today. Between 1893 and 1890 much of his work was published under the titles *Descriptive Zoopraxography, Animals In Motion,* and *The Human Figure In Motion.* Although Muybridge never progressed beyond his battery of still cameras, he nevertheless deserves the title often given to him, the Father of Cinematography.

However, from a cinematographic point of view, there was a serious lack in the ultimate achievements of Muybridge. Each of his successive photographs was taken from a fresh viewpoint or angle, so that the series did not capture action as it would be seen through the eyes of an observer (unless, of course, he was walking or running beside the moving object). This fundamental lack in the technique troubled Etienne Jules Marey, even while he talked with Muybridge; he wanted the succession of pictures taken from a *single point.* Each separate picture taken by Muybridge required a separate camera; Marey recognized that the solution lay in devising one camera so that it alone could take the required succession of pictures.

Muybridge had little more than reached America again, before Marey found the solution to his problem. He mounted a large round photographic plate behind a single lens, so that the plate revolved to permit a succession of twelve individual exposures on it. The year 1882 saw Marey using his Chronotograph, usually known as his guncamera because of its obvious shape. To Marey, all his research and labor had but one purpose: to serve the interests of science. With his camera he photographed the movements of humans and animals, the flight of birds, the beating of a heart. Marey's quest was the

search of the scientist for a better way of understanding movement in nature.

Although Marey raced ahead in his work, substituting an endless band of sensitized paper for his bulky plate in 1888, work was not standing still on this side of the Atlantic. Thomas Edison was also at work on the problem, but not necessarily for the same reasons. However, to both Edison and Marey, the action camera still had one fundamental weakness—the heavy and bulky plates, or the unsatisfactory paper base. Within the next year the means was given to them by Hannibal Goodwin and George Eastman—the flexible celluloid base upon which a photographic emulsion could be placed—and the basic motion picture camera was ready to go to work. Edison's Kinetograph and Marey's Chronotograph now photographed movement at the photographer's will.

The Search for a Viewing Instrument

As good as the action camera was in 1889, Edison, Marey, and all the others working simultaneously on the problem, still were dissatisfied with the available means of viewing the photographs which their cameras took. Although Emile Reynaud had projected action drawings before groups in Paris as early as 1890 with his Praxinoscope, the viewing of action photographs was still on an individual basis. Marey viewed his photographs in the familiar Zoetrope, but Edison had perfected an individual viewer which gave better results, and which he had patented in 1891 as his Kinetoscope. No matter what the device, the viewing of motion picture photography was still on a "peep-hole" basis, limited to the individual viewer, thus challenging the minds of men to devise a means of exhibiting these moving pictures to *groups*.

The period 1889 to 1894 can well be called the gestation period of the motion picture industry. In the year 1889 all the components were at hand; in 1895 birth took place. Not until this occurred could the motion picture become a medium for mass education or entertainment. The problem of *project-*

ing motion pictures before groups of people challenged men in both Europe and America. The work on such a projection instrument was so swift and so simultaneous that inevitable contradictions arise when an attempt is made to attribute the perfection of the motion picture projector to any one man or team of men.

Given an adequate source of illumination, a flexible transparent emulsion base, and the essential mechanical and optical components from the motion picture camera, the development of the motion picture projector was swift and inevitable. In America, final work was being done by Woodville Latham, Thomas Armat, and Francis Jenkins; in England, by Paul; in Germany, by Oscar Messter and the Sladanowsky brothers; and in France, by the Lumiere brothers.

Just who gets credit for the first public showing of the motion picture projector is not of particular importance here, but it is interesting to note that attempts to give such credit generally are dependent upon which side of the Atlantic the credit-giver is from and upon his interpretation of whether a *public showing* must involve an admission fee. It is certain that public demonstrations of motion picture projectors were given in 1895 by Latham, Jenkins and Armat, and the Lumiere brothers, all of which were before scientific groups or invited audiences. Some writers give credit for the first pubic showing (for an admission fee) to Thomas Armat in New York City on April 27, 1896. Armat, his collaborator Francis Jenkins having dropped out of the venture, was induced by his financial backers to seek the last-minute collaboration of Thomas Edison because of the great prestige of Edison's name. Such is the explanation of how Edison's name came to be attached to Thomas Armat's "Vitascope" motion picture projector, for it is known that Edison had been reluctant to perfect an instrument of his own which would show moving pictures to groups and thereby jeopardize the commercial value of his peep-hole Kinetoscope galleries which had been in operation since 1894. In joining Armat, Edison bowed to the inevitable.

Some writers on the history of the motion picture, and perhaps for justifiable reasons, give credit to Louis and Auguste Lumiere for the first public showing of motion pictures at which an admission fee was charged, for they are reported to have given such a performance in Paris on December 28, 1895. Regardless of conflicting claims, it is certain that these two brothers performed a valuable and necessary service in coordinating and improving the work of others on the projector problem, just as Etienne Jules Marey had done a few years earlier for the motion picture camera. It is said that Louis Lumiere, immediately after the first public demonstration of his projector, dismissed completely the possibility of it having any commercial value; to him, it had no chance of becoming anything more than a scientific curiosity and a possible aid in presenting certain scientific informaton before groups. How little he knew!

The Search for a Film Voice

Having as they now did the means of taking and projecting pictures of motion, the men of science and art still were not satisfied. From the very beginning of their work there had been the hope that these moving pictures could be accompanied by voice and environmental sounds. Such a thing, it is known, lay in the mind of Thomas Edison during and soon after his invention of the phonograph in 1872. There is even a repeated, but unsubstantiated report that Eadweard Muybridge visited Edison in 1888 to discuss this very problem. It is certain, however that Edison and his technicians were working on the synchronization of sound and picture as early as 1889.

In both England and France men were working toward the same goal as Edison and his laboratory collaborators. In France, between 1902 and 1909, Leon Gaumont gave several demonstrations of sound motion pictures, while in America, Edison accomplished the same end with his Kinetophone between 1906 and 1908. Much of the credit for this latter project must be given to Laurie Dickson, a brilliant young worker

in the Edison Company laboratory, who greeted Edison upon that good man's return from Europe with a startling demonstration. Dickson led Edison to the new apparatus, and there from the screen Dickson was seen and heard to say, "Good morning, Mr. Edison. Glad to see you back. I hope you will like the Kinetophone."

It is difficult for us today to visualize the laborious and crude mechanics involved in synchronizing sound and picture at that time. Of necessity, the sound reproducing equipment stayed near the screen. For public performances, there evolved an awkward system of ropes and pulleys leading from the sound equipment at the screen to the projector booth at the rear of the room. Thus, by constant joggling of ropes and manipulation of projector speed control, the operator was given the means of obtaining an approximate synchronization between sound and picture. This situation, combined with the poor quality of mechanically recorded and mechanically reproduced sound records, gave little if any promise for the future of the sound motion picture.

The truth of the matter was that the whole problem bogged down for lack of suitable means of sound recording and reproduction. The solution waited upon the development of *electronic amplification,* as critical an item at this point as the flexible film base had been to the perfection of camera and projector. Although not yet put to use, the necessary means already was at hand. Fleming's thermonic valve (1904) and DeForest's audion vacuum tube (1907) were to provide the basis for the electronic amplification required in both the recording and the reproduction of sound, but neither was to be put into use for motion picture sound immediately. Much additional work still had to be done by electrical engineers before these tubes could amplify the screen's voice.

It was not until after World War I that electrical engineers were able to turn their attention to sound for the film. Then, between 1920 and 1922, research engineers of the West-

ern Electric Company perfected and announced successful screen sound. Developments followed swiftly—first, music synchronized to mood and action of the picture in 1926, followed by screen dialog within the next two years.

Even at this point the film's sound was being recorded on and reproduced from discs, and successful presentation of sound film was at the complete mercy of mechanical breakdowns and operator carelessness. Screen actors' voices had an irritating habit of coming in on the up-beat or even not coming in at all. Films could be made in perfect synchronization, but sound-on-disc equipment provided no means of insuring perfect synchronization at all times during the performance. The answer had been known for several years—sound-on-film—but it required time and money to perfect the necessary equipment and technique. Sound-on-disc was given the green light, because the phonograph record industry already was at hand with the equipment and know-how required to make and process sound discs.

A great deal of important preliminary work had been done on the sound-on-film process between 1890 and 1910, but it, like all other sound systems, had been delayed until the perfection of electronic amplification. Early work had gone on in England, but major explorations had been done in America by Eugene Laust, another brilliant member of Thomas Edison's laboratory staff. Laust had patented a sound-on-film process in 1907, and by 1910 had worked out the basic designs of the variable area and variable density sound tracks as we know them today. But he, too, had to await electronic developments.

With the laboratory perfection of electronic amplification in 1920, engineers of the General Electric Company that same year were able to give a successful demonstration of sound-on film; by 1922 the Western Electric Company had made and shown the first educational sound-on-film subject, a short animated film on the vacuum tube. Within a couple of years after sound-on-disc entered the movie houses, sound-on-film had overtaken it and was in the motion picture industry to

stay. The screen had at last found a voice that not only was acceptable in fidelity and volume, but was also certain to stay in synchronization with its picture.

Although the sound film, in its basic present technical form, made its commercial appearance in 1930, it was still limited to 35mm and thereby largely ruled out of use in non-theatrical situations. Before the educational sound film could find widespread use, certain problems of equipment and film had to be licked. Acetate (safety) film stock had been made available in 1914 by both Pathe and Eastman, and 16mm silent projectors had been in use for several years prior to 1930. By the middle 1930's, the additional problem of devising suitable 16mm sound equipment had been solved, and the last mechanical obstacle had been removed to the free and universal use of the 16mm sound film in home, school, church, and business.

Films for Educational Uses

During the first fifteen years of its life (1895-1910) the motion picture industry was feverishly preoccupied in finding a clue to its own destiny. It progressed from the short episodic strips of film running one and two minutes, to two and four-reel screen stories; it began to use the close-up and medium shot, as well as the long-shot, to tell its story; it learned the rudiments of film editing; it learned to use animation as well as live action; and, in general, it found that the camera could be used in a variety of ways to *tell*. Just what its future would be was problematical; its uses were as wide and varied as the men who cranked the crude cameras. Parisian cafes bought and ran films to entice more customers into their places, just as the taverns of New York, Chicago, and Los Angeles were using television in 1948; people were paying their money to squint through the peep-holes in Edison's nickelodians; itinerant showmen were exhibiting films at fairs and in the vacant lots of small towns; audiences were being titillated by *The Indiscreet Maid* and *The Kiss*, were being transported into

realms of fantasy by *A Trip to the Moon* and *The Merry Frolics of Satan,* and were being thrilled by the excitement of *The Great Train Robbery* and *The Story of a Crime;* and, Thomas Edison was turning out what may have been the first medical training film, a demonstration by Dr. Colton of the use of laughing-gas during a tooth extraction.

It is around the year 1910 that there is a discernible trend toward specialization in films, and a separation into the general categories of theatrical and non-theatrical uses For, it is at about this time that the motion picture showed definite signs of becoming a significant entertainment industry, as well as having potential usefulness for non-theatrical purposes. The people who paid to enter the movie houses, however, were still being educated as well as entertained. American movie programs of 1910 included, along with entertainment reels, such films as *The Taos Indians of New Mexico at Home, The Tea Industry of the United States, The Story of Coal, The Story of Wheat,* and *Pottery Making.* And, in August 1910, the motion picture editor of the New York *Dramatic News* was estimating in his column that, out of a total of 140 theatrical film releases in that month, almost a fourth were scenic and industrial subjects.

The period immediately following 1910 saw the definite beginning of the non-theatrical film field. Within a few short years a safety film stock was made available and a so-called portable 35mm projector placed on the market. An enormous growth in films for lecturers and lyceums took place, and the stage was set for an expanding non-theatrical film industry to serve community, government, church, school, and business. At the San Francisco World's Fair in 1915 more than 60 industrial, religious, educational, and governmental agencies were exhibiting motion pictures—Canadian Pacific Railway, American Telephone and Telegraph Company, National Cash Register Company, Pennsylvania Railway, the Heinz Company, the Federation of Churches, various state and federal agencies, and others.

Films for Community Welfare

As early as 1910, Thomas Edison had made *The Red Cross Seal* for the American Red Cross and the Tuberculosis Association, and *The Man Who Learned* (a film on the dangers of impure milk). The Boy Scouts of America in 1913 sponsored a film for its purposes, *The Making of a Scout.* The film annals of these early years are full of titles on community health problems, boys camps, recreational programs, and prison welfare. Even during this early period, the pattern was being set for present-day use of the film in community education.

Films for the School

The educational use of films, although by no means limited to the school, found eager proponents in that area. Teachers were pleading for the use of the motion picture, even before it was out of swaddling clothes, and the motion picture industry was not entirely deaf to their pleas. By 1910, specialized catalogs of "educational" films were available in England, France, and America. In that year the Chicago firm of Kline, Selig, and Spoor issued a catalog of more than 1,000 titles, listing films "for Universities, Colleges, Scientific and Literary Institutions, and Traveling Lecturers." And, in the same year, the *Moving Picture World* was reporting the use of films in schools of Rochester, New York, and commenting upon the recommendations of Superintendent W. H. Maxwell for the installation of motion picture projectors in the schools of New York City.

The use of motion pictures to teach boys and girls was ever in the mind of Thomas Edison, and through 1910-1912 he was producing a long list of educational films, including such titles as *Ticonderoga, The Minute Men, The Cabbage Butterfly, The Cecropia Moth,* and others. In that same period, a young film worker in England, F. Percy Smith, was to discover a technique, which we today know as time-lapse photography, and put it to use in making such educational films

as *Birth of a Flower* and *Germination of Plants.* Within the next decade (1920-1930) monumental strides were to be made in school films, largely through the first production of specialized teaching films for the school—the Eastman Teaching Films, the Society for Visual Education films, and the Yale *Chronicles of America* series—while research workers of the same period were busily gathering experimental evidence to prove the value of motion pictures in education.

Films for the Church

Early enterpreneurs in the film field were quick to capitalize on the interest of movie audiences in religious subjects and thereby gain the endorsement of church groups. Even as early as 1898, American audiences were being shown two different films under the title of *Passion Play,* one of which had been faked atop a midtown New York building. The importation, in 1912, of two sincere Italian-made films, *Quo Vadis* and *Ben Hur,* followed by American-made films like *Story of Esther* and *Jesus of Nazareth,* was the final spark needed to kindle interest in the nation's religious leaders. Official action came quickly. In 1913 the Presbyterian Board of Publications contracted with the Edison Company for the production of a number of religious films and for the installation of motion picture projectors. The same year saw action by the Mormon Church, resulting in its film *One Hundred Years of Mormonism,* and the Catholic Church had the film *Pope Pius and the Vatican* for its use by 1914. The rapidly growing interest in the church field was further evidenced by the publication in 1916 of the book, *Motion Pictures in Religious Education Work,* by the Federal Council of Churches of Christ in America. And, in 1920, the *Literary Digest* was able to state that no fewer than 2,000 churches in America were using films. The church had found in the film an important tool for the promotion of religious education.

Films for Government

The federal and state governments were very quick to see in the motion picture a means of training and propaganda. The year 1912 saw the War Department Committee on Training Camp Activities sponsor and release *Fit to Live,* a film on venereal disease, and by 1917 the Army and the Navy each had used motion pictures for their recruiting programs, *The Making of a Soldier* and *Life of a Sailor.* State governments had not been remiss, for the San Francisco Fair in 1915 saw many of them exhibiting motion pictures there for the purpose of extolling their respective attractions for business and tourists, and 1916 saw the release of *Historic Indiana,* a film to which that state had generously contributed money and services. The way had been shown for the wide use of films by government to train and endoctrinate, a use which was to grow beyond all imagination by 1945.

Films for Business

The early film-makers of 1905-1915 regarded the field of business and industry as a good source of film material, not that business was yet paying to have such films made, but rather that audiences would pay to see them. In England, Charles Urban was grinding out film after film on printing, wool, and textiles to sell to the theater owners. In America, familiar names like Carl Laemmle and D. W. Griffith were producing *Story of Cotton, Story of Coal, Story of Wheat,* and *Pottery Making.* Movie audiences, for a time, were willing to pay to see such films as a part of the movie program, and the owners of businesses and factories were proud to see their plant or their product featured on the screen. It was only a matter of time, however, before some bright boy with a camera discovered that business *would even pay* to have such films produced. Then was born the type of industrial film which John Grierson several years ago so aptly characterized as being "sponsored in pride and produced in contempt," for the

film-makers of that period made little attempt to disguise the fact that they considered the whole affair as a sucker's game.

Within another five years, however, the making of industrial films had become a serious business in its own right. Competent producers began to specialize in the field and give it the sort of attention and ability needed. The commercial world accepted the motion picture without reservation as a medium of training, endoctrination, and advertising.

The Educational Film Today

In spite of all the work that had been accomplished in that fruitful period between 1895 and 1925, the educational film was by 1940 still generally unappreciated by the lay public. In spite of all that was known about it, and in spite of all the sincere research and production that had been carried on up to that time, it still took the 1941-1945 wartime experiences of our industry and armed services to convince the average citizen that the use of films for educational purposes was more than a frill and a fad; that the "educational film" meant much more than a warmed-over version of an entertainment film; that the applications of the film in education were real, effective, and worth their cost in time and money.

In the first rush of enthusiasm over the wartime training film and its accomplishments, many extravagant statements and claims were made. There were those who thought of the wartime training film as a wholly new instrument, a new development which promised untold gains for postwar education both in and out of school. Such newly won disciples overlooked the fact that the wartime training film was but a colossal application of knowledge and techniques known to many film-makers, training directors, and school and religious educators for years. Overlooked also was the fact that this tremendous war film program was made possible primarily because there existed in this country at the outbreak of war a small body of film technicians and educators already experienced in planning, writing, producing, and using educational motion

pictures; it was this group already tested in industry and education, which provided the nucleus of the vast body of film workers required by the federal government.

One of the important by-products of the war training film program was to give to the educational film, not alone full stature in the public's eye, but something even more important—a refinement of form and technique not envisioned before the war. Prior to 1940 the educational film was pretty generally cut to a dry and academic pattern. It was a pattern that was years behind the technical and creative standards current in the theatrical motion picture industry. The people who were working in the educational film field had struggled without benefit of the best techniques, equipment, and creative ability, for most of this was centered in the entertainment motion picture field where financial returns were more attractive. The technicians and artists of the theatrical film field had, up to 1940, given no more than occasional lip service to the educational film. Under pressure of time and necessity of winning a war, these two specialized groups joined forces. What had been mutual distrust of each other, was replaced by a healthy mutual respect. The theatrical film worker recognized that the educational film field was an art and a craft in its own right, and one to which he could apply much of the creative genius and high technical standards of the entertainment field; the educational film worker recognized that the experience of the theatrical film field could tell him much about making an improved film that would teach more effectively. It is this combination of knowledge and techniques that promises to give us a better educational film.

Any attempt to bring this historical resumé up through the present and show the tremendous scope of the field would be puny and futile. Neither space nor perspective permits the accomplishment of such a task at this point. Succeeding chapters will, but even then to a limited degree, attempt to present

today's status of the educational motion picture—the specialized fields of school and church, the uses of government and industry, and the reawakening interest of Hollywood.

CHAPTER II

THE NATURE OF THE EDUCATIONAL FILM

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The motion picture from the broad educational point of view is essentially a multiple method of communication. It is especially effective as a technique for telling a story. It presents facts realistically. It dramatizes human relations and events. It arouses emotions. It transmits attitudes. It records and reproduces phenomena for scientific study and analysis. It depicts the imaginative. And it can enable one to see the unseen. By means of the sound motion picture, the whole gamut of human experience may be communicated from teacher to learner wherever a learning-teaching situation exists.

From the view point of lifetime learning, the motion picture is not only applicable at all levels of formal education, but it also may be used for the communication of ideas, attitudes and experiences to the masses of people outside of the schoolroom. It has proved its effectiveness in adult education, in industry and in sales training. In its early stages of development in America, the motion picture found its support in the hundreds of thousands of relatively untutored people who flocked to the penny arcades and nickelodeons to be "amused" and "to learn" by seeing. The film spoke a language, then as now, which the common man could understand. The impact which the motion picture has made upon the American public in the past fifty years is immeasurable. As a method of effective mass communication the film is unsurpassed. Under the cloak of entertainment the theatrical cinema has tutored the

American public with respect to mores, manners and customs. It has also carried its messages to all lands. It has developed desires which have had a marked effect upon behavior. While the philosophical and ethical values which have resulted have been the subject of much debate, the fact is that the motion picture is a powerful educational tool whether it be used to "entertain" or to formally "teach."

There have been many attempts to type the educational film. For example, it has been stated that there is and should be a distinct difference between the "entertainment" and the "educational" motion picture. The motives for making such a distinction were mixed. They stemmed in part from the desire of the producers, distributors and exhibitors of films for theatrical use to protect box office receipts. The producers reasoned that if the "educationals" could be typed in a non-theatrical pattern it would eliminate a potentially powerful source of competition. It was suggested that "educationals" should be confined to a straight presentation of fact, that they should be in effect rather unimaginative. Many educators in turn, fearful of the possible unmoral effect of "theatrical" films shown in schools and viewing with alarm the possible introduction of entertainment or fun into formal teaching, likewise supported the typing of "educationals" into a dull-illustrated-lecture pattern.

To separate motion pictures into two classifications, (1) those which entertain and (2) those which educate, is not paralleled in the teaching of literature and drama in schools. Many novels and plays which were written in the first instance to entertain are used in schools for highly desirable educational purposes. The novels of Charles Dickens and the plays of Shakespeare were not written as school text-books, but no one would question their educative value in the study of English literature. The distinction is rather one of *use* than of something inherently different in the nature of the films themselves. The motion picture *David Copperfield* was produced to entertain, but it is highly regarded by teachers of

English as having educational value in studying the work of Charles Dickens.

Obviously not all films made for entertainment purposes would be selected by educators for school use. Teachers select films for purposes different than those in the minds of theatrical exhibitors. Just as teachers are careful to select educationally desirable novels and plays for use in teaching literature, so do they evaluate films for classroom use. The demands of education and of entertainment are not identical; but a film that is entertaining may be educative as well. And a film which may be highly educational may also have distinct value when shown in theatres. To rigidly classify films as educational on the one hand and entertaining on the other is not sound.

The point of view expressed above is supported (1) by the fact that as time passes more and more films which were first produced for theatrical exhibition are being made available for school use either in full length or in edited versions and (2) by the failure of the attempt to develop an unimaginative-factual-film pattern for *all* "educationals" because teachers and pupils alike found them too dull and uninteresting by contrast to be of much value.

How then may we define the educational motion picture? An answer to this question may be worded as follows: the educational film is one which contributes to the achievement of desirable educational goals by making effective use of the motion picture as a medium of communication. It will be noted that this definition emphasizes the necessity for (1) a concrete positive contribution through use and for (2) a proper employment of the motion picture medium. The definition further assumes that users of films in educational situations are clear as to the goals which are to be achieved.

With this definition in mind, it is possible to outline criteria which would enable experienced educators to identify a motion picture as possessing educational values. But it is clear that a comprehensive outline of criteria would be very complex and difficult to administer with panels of teachers.

Subject matter interests and the needs of students vary so widely that teachers, even with a common set of ultimate educational goals in mind, will see different values in a film as teaching material. This in part explains why many attempts to administer films have met with little success. The educative value of a film depends upon the purpose which the teacher has in mind and the use made of the film to achieve that purpose. Furthermore, the purposes of education are broad and multiple. The theatrical field can evaluate the success of a motion picture by its popular appeal reflected in box office receipts. But in education, the value of a film is not so easily measured. In the theatrical field it is possible to develop production patterns which are reasonably sure of box office success. Whereas in education, the types of films which can be used successfully are so diverse that producers seeking a simple production formula for educationals find that no such pattern exists. Obviously, a classification of types of educational films is indicated.

There have been attempts to classify types of educational films based on educational considerations. As early as 1923, Frank N. Freeman writing in the *School Review* developed a classification of four major types of educational films[1] which he offered as a working basis. His four types were: (1) *the dramatic,* either fictional or historical; (2) *the anthropological and sociological,* differing from the dramatic in that it is not primarily based on a narrative or story; (3) *the industrial or commercial,* which show the processes of modern industry and commerce; and (4) *the scientific,* which may be classified into subgroups corresponding to the individual sciences such as the earth sciences, nature study, et cetera.

Since it is the purpose of this chapter to give consideration to the types of films which may be identified with learning at all levels from kindergarten through adult education, Freeman's classification for our purposes is limited somewhat in

[1] Frank N. Freeman, "Requirements of Education With Reference to Motion Pictures." *The School Review.* Vol. XXXI No. 5, May, 1923. pp. 340-350.

scope. He was thinking primarily in terms of the upper elementary and secondary levels of education. Furthermore, it will be noted that Freeman's classification is based chiefly upon subject matter considerations, although he makes reference to the functional characteristics of the narrative or story type of film as contrasted with the factual type of film presentation. However, Freeman's typing of educational films as early as 1923 is noteworthy from an historical point of view. Also, it represented basic pioneering thinking of a constructive nature.

More recently, Mark A. May has directed attention to four rather distinct classes of films which have typified the training films produced by and for the Armed Services during the war. May defines these four functional types of teaching films as follows:[2]

> "The first is the *demonstration film* which shows how to perform a skilled act; that is, the performance shown on the screen is intended to be imitated later by the observer. The second type is the *informational film* which shows processes and operations and conveys ideas and information useful to the trainee, but the action shown on the screen is not supposed to be imitated. The third is the *incentive film* designed to motivate, change and develop attitudes, bolster morale, and promote clearer understanding of the purposes and problems of the war. A fourth type of film may be recognized as *provocative* in purpose. Such a film presents a problem or depicts a problem situation without necessarily offering a solution. It is used to stimulate discussion."

May's classification, like Freeman's, is limited in scope. It is based on a study of films produced for the training of soldiers, sailors, aviators, nurses and war workers. However, the classification has definite transfer values for postwar education and was prepared with that purpose in mind. It repre-

[2] Mark A. May, *Motion Pictures for Postwar Education*, Washington: American Council on Education Studies, Series I, No. 21, Oct. 1944. p.4.

sents a contribution to educational thinking relative to the use of motion pictures in education. Clearly, such functional differentiations are evidence of progress.

As one studies the Freeman and May classifications two questions come to mind. (1) Are there other types of educational films which may be identified? and (2) by combining ideas contained in the two classifications and by making additions, is it possible to outline a more complete classification of functional types which would reflect the use of motion pictures in the total educational scene? The answers are in the affirmative.

It has already been stated that the educational requirements of motion pictures are broad and varied. Likewise, the film lends itself to extensive variation in the way it may be used in teaching situations. Therefore, any attempt to outline a comprehensive functional differentiation of educational films requires that attention be directed to basic considerations. One is that the chief educational value of films in teaching is their power to communicate concepts involving motion. For example, motion pictures can present to the learner: (1) the observable movement of objects, singly and in relation to each other; (2) the movement of objects too slow to be seen by an observer (3) the movement of objects too fast to be analytically studied; (4) the motion of the unseen; (5) the motion of the imaginary and of abstraction; (6) the motion of rhythm; (7) the motion involved in depicting the relationships of objects and the flow of events separated by intervals of time and space; and (8) the motion involved in the interaction and flow of ideas between people as expressed by spoken words, gestures and other bodily movements.

A second basic consideration is that the motion picture has the power to communicate ideas in a realistic concrete manner not possessed by language. Ideas presented by the motion picture have meaning. Extensive verbal explanation is unnecessary. The motion picture effectively offsets verbalism in teaching. By coupling the verbal communication of ideas

with the motion picture, the teacher has a powerful teaching tool at his command. It is essential, therefore, that the criteria of high technical quality and authenticity typify educational films.

A third consideration is that the motion picture can be used in connection with all types of learning. It furnishes a model for the learner to imitate in developing sensory motor coordinations. It builds up vivid rich associations and memories. It presents problems for solution and the basic materials for effective reflective thinking. It teaches appreciations, and attitudes. And it can be used to stimulate strong emotional responses.

Finally, the motion picture is a time-saving educational tool. It saves hours formerly spent on field trips by bringing such experiences into the classroom. It introduces and summarizes topics in a brief effective manner. It reduces time-consuming repetitive drills and explanations. It directs the learner's attention to pertinent subject matter. It creates interest, thus saving the teacher's time and energy. And it makes possible the presentation of subject matter which could not be presented in any other way.

Twelve Types

With these basic considerations and with a knowledge of the educational motion pictures which have been produced in mind, the following functional types of films may be differentiated. The first is the *narrative film* which tells a story based on fiction or fact. The narrative film may be animated with cartoons, puppets or models or it may use actors in natural or studio settings. The narrative film informs but it also gives an orderly continuous account of an event or series of happenings. It is a type of educational film which has been in use for many years. George Kleine's, *Catalogue of Educational Motion Pictures* published in 1910 lists a few narrative films, notably *The Night Before Christmas* based on the legend by Clement Clarke Moore. The narrative film has been used for children's

stories and fairy tales. Examples are *Pudge,* produced by Children's Productions and *Beanstalk Jack* distributed by Castle. It has been used to tell more factual narratives such as the story of wheat and of corn for use in the upper grades. It has been used to teach adults, a recent example being Walt Disney's *Water—Friend or Enemy.* The narrative type of film may use the pictures to tell the story, or it may use the commentator's voice to tell the story, or it may use the voices of the actors, or voices may be given to animals, puppets, cartoon personalities or to objects. In Disney's *Water—Friend or Enemy;* the water tells the story. And music may be used to add to the effectiveness of the presentation. These points illustrate the extensive variety of patterns which may be employed with the motion picture to present a narrative.

The second type is the *dramatic film* which is primarily theatrical and is used in connection with the study of the drama and of literature, or for recreational purposes, or for the development of discriminating attitudes of theatrical motion picture appreciation. The dramatic film is more highly charged with emotional appeal than the narrative film. It differs also in that it was produced at the outset for entertainment purposes whereas most educational films of the narrative type were produced with a school or teaching situation in mind. The *Tale of Two Cities* is a good illustration of the educational dramatic film.

The third type is the *discoursive film* which presents a topic or series of related topics in a logical, systematic and authentic manner. It employs the style of an essay, textbook or lecture. The discoursive film is informational for it is generally produced in a typical illustrated-lecture pattern. It also gives training in following the reasoning of an orderly presentation.

Industry has made extensive use of the discoursive film to show the processes of modern industry and commerce. These films, loosely called "industrials," indicate how goods are produced, manufactured and distributed. They have been widely used in education. The Encyclopaedia Britannica productions

titled *Southwestern States, Truck Farmer, The Moon, Electrostatics,* and *Molecular Theory of Matter* are illustrations. *Alloy Steels,* produced by the U. S. Bureau of Mines, and *Where Mileage Begins,* produced by General Motors, are examples from industry. When it is properly made, the discoursive film is useful for introducing a topic or unit to a class, or for furnishing background material, or for summarization.

The discoursive type of educational motion picture, when compared to the dramatic or narrative film is dull. In characterizing the early educationals Mark May has said, "The first teaching films were visualizations of textbooks. They were dull and boring even as textbooks are often dry. Educational films early earned the reputation of being devoid of interest."[3] One explanation for the dull character of discoursive films in the past has been stated earlier in this chapter. A second explanation is that the producers of discoursive type films depended too much on verbal captions or commentary to carry the content. This resulted in the too frequent use of static illustrations; in an historical approach illustrated by maps, inanimate graphs and pictures of pioneer personages; in the failure to correlate commentary with visual material; and in the presentation of concepts which could have been taught better with slides or slidefilms because the subject matter required time for reflective study. However, whenever a discoursive film has been produced with a systematic sequence of motion concepts in mind the product has been rated highly by teachers. A good example from the early silent films is *The Life History of the Monarch Butterfly* produced by Society for Visual Education. Good examples of more recent sound films are *Truck Farmer* by Encyclopaedia Britannica and *Winged Scourge* by Walt Disney. Such discoursive films have a valuable function in education.

The fourth type is the *evidential film* which is used chiefly to record scientific data for study and analysis. It may also be used to make records of events for correlation with other data.

[3] *Ibid.* p. 4.

In educational circles, extensive use of the evidential type of film is now being made in the natural and physical sciences, in the applied sciences and in physical education. Time-lapse and slow-motion photography are employed extensively in making evidential films. For example, the botanist studies the growth and movements of plants by time-lapse photography. The ornithologist studies and analyzes the flight of birds by means of slow-motion photography and his finding are applied to the design of aeroplanes. The engineer studies the fatigue of metals by means of motion pictures. The trained surgeon's delicate operational skill is recorded in slow-motion and is analyzed for the purpose of developing better techniques in teaching the untrained student. Perhaps the most systematic use of the evidential film today is to be found in college football. It is now standard practice for coaching staffs in the large universities to make a slow-motion record of every game. Within two or three days following the game the coaches and players analyze the record to determine the strengths and weakness of plays and of the performance of individual players.

In industry and business the evidential film is extensively used to study the performance of workers in order to develop work standards. In fact, the science of time and motion study has been built on the ability of the slow-motion picture to furnish the basic data. Training programs have been developed from the analysis of the performance of skilled workers. In many large industries the value of the evidential film is such that the company employs a competent photographic staff and maintains a completely equipped laboratory in order to systematically study and improve techniques and processes.

The above illustrations of the application of the evidential film in education, science and industry are by no means exhaustive. Examples could be cited from studies made in child psychology, neurology, sociology, ordinance, medicine, and many other fields of human endeavor. The evidential film has and will continue to make a large contribution to human knowledge. When the evidential film *in use* is shifted from a

study or analytical purpose to a straight presentation-of-information objective, then it becomes another type of educational film, which we will discuss next.

The fifth type is the *factual film* which treats a topic or series of topics in an encyclopaedic manner for the purpose of conveying information. The factual film differs from the discoursive film in that it is an episode or series of episodes rather than a systematic logical treatment of a topic or series of related topics. Newsreels and many of the travelogues may be classified as factual films. Evidential films, when used to inform, function as factual films. Freeman put his finger on the type as applied in the fields of anthropology and sociology when he stated that, " Its purpose is to reveal directly the customs and modes of life of people of various countries, climes or occupations. It differs from the dramatic picture in that it is not primarily based on a narrative or story."[4] The catalogues of educational films from that of George Kleine to the present have been filled with titles of factual films. Let us cite a few examples. The first three are silent films produced by Eastman Teaching Films. The wording inside the brackets is the description of content: *Microscopic Animal Life* (photomicrographic views, amoeba, paramecium, stentor, vorticella, rotifer); *Alaska* (glaciers, gold, salmon, seals, whales, native life, American settlers); and *Digestion* (structures in digestive tract, functions, mouth, esophagus, stomach, intestines). The next two are sound films produced by Erpi: *Beach and Sea Animals* (starfish, sea-urchin, crab, cutlefish, octopus, crayfish, lobster, shrimp, snail, scollop, and sea-cucumber. The physical structure, activities and interrelations of these animals are illustrated, special emphasis being placed on their methods of protection); and *Shelter* (various types of shelter; Eskimo igloos, African huts, Indian adobes, modern construction showing use of bricks, concrete, steel and glass. Living condition of today). Like the discoursive type, factual films have been relatively dull. To many they characterize educational motion

[4] *Op. Cit.* p. 344.

pictures because they have constituted a substantial majority of the films produced for classroom use. The chief value of the factual film is that it provides direct background information to assist in the study of a unit or topic. Factual films bring into the classroom experiences that could not be gained in any other way except by direct observation through expensive field trips and laboratory equipment.

The sixth type is the *emulative film* which shows how to perform an act of skill or demonstrates patterns of behavior which the learner imitates. During the war this type of film was used to teach trainees how to manipulate apparatus and machines, and how to behave under combat conditions. It was especially helpful in training aeroplane pilots, gunners and technicians. Prior to the war the emulative film had been used to train learners in sports, in first aid, in child care, in industry and in many fields involving muscular coordination. Since the war a number of films of the emulative type have appeared. Some examples are: *Dinner Party,* and *Let's Give a Tea,* by Simmel-Meservey; *You and Your Friends* by Look Magazine in collaboration with Association Films; and *Play Ball, Son* produced by Bert Dunne. The so-called demonstration film in which a scientist demonstrates a difficult laboratory experiment for the purpose of informing students is not to be confused with the emulative type of film. Rather, it should be classified as a factual film or discoursive film depending upon the content or use.

The seventh type is the *problematic film* which sets problems for discussion and supplies the basic data for thinking. The Commission on Human Relations of the Progressive Education Association produced a number of films of this type prior to the war by extracting problem situations from dramatic feature pictures. During the war the armed services used problematic type films with success. One in particular was employed by the Navy to screen pilots who were incapable of carrier duty. A good example of a problematic film which has been

released since the war is *You and Your Family* produced by Look Magazine in collaboration with Association Films.

The eighth type is the *incentive film* which motivates action in the direction of developing character, attitudes, morale, and emotional response. The so called "documentary film" would come under this classification. Films which are made to propagandize and to promote sales are of this type also. Incentive films make use of all types of motion picture techniques to provoke the observer to action. The commentary, dialogue, sound effects and pictures generally move fast and are rhythmically combined to stir strong emotional response. In some incentive films the stark reality of the pictures themselves serve to achieve this purpose. Such a film is *Seeds of Destiny,* produced by the United States Army Signal Corps.

It is the opinion of the author of this chapter that the term "documentary" film, mentioned previously, is misleading. Documentary means "the conveyance of information or evidence for the establishment of facts" according to Webster, and does not imply the arrangement of the evidence for the purpose of inciting. Strictly speaking a "documentary" film should be synonymous with a factual film. However, the "documentary" type, which has become popularly known as such, is in reality an incentive film. While the scenes of the documentary film are generally real life filmed on the spot without sets and actors, yet the angle of view, the editing and arrangement of scenes and the sound effects are all combined to establish attitudes and to arouse emotional response. For example, witness *The River* and *The City.* Likewise the March of Time films should, with few exceptions, be classified as incentive. The Armed Services made excellent use of incentive type films during the war to combat disease, to build morale, to change and develop attitudes and to create a better understanding of the war's purposes. The success whith which incentive films have been used during the war years has strong implications for postwar education, particularly at the adult level in teaching human relations and international understanding.

The ninth type is the *rhythmic film* which is used to achieve artistic effects and to develop aesthetic responses. For example, *Anitra's Dance* distributed by Gutlohn, and Walt Disney's *Fantasia*. The rhythmic film is characterized by the use of moving patterns of color, light and shade, geometrical design and pictorial effects combined with music and other sounds. These films are constructed to appeal to the inborn rhythmical nature of the observer and to his aesthetic senses. Very few rhythmic films have been made. They may be regarded as being in the experimental stage.

The tenth type is the *therapeutic* film which is used in medicine in connection with the educational rehabilitation of psycho-neurotic patients. These films employ some of the techniques used in the rhythmic type and are in the experimental stage. The Aurotone films are good examples. It is reported that therapeutic films are being used with success.

The eleventh type is the *drill film* which sets forth repetitive exercises in which the observer participates during the showing of the film. For example, the reading drill films produced by Dearborn at Harvard University and the mechanical drawing films constructed by Rising at Purdue University are of the drill film type. Like the ninth and tenth types, drill films are in the experimental stage. It is to be hoped that more drill films will be produced in the near future, for there are many teaching situations in which they could be applied.

A twelfth type may be designated as the *participative film* which is characterized by the films which have been made for group singing. This type differs from the drill film in that the learning is on an appreciative, rather than on an instructional level. Participative films have been used extensively with theatre audiences but have not been employed in schools to an appreciable extent. Participative films could be used effectively in connection with auditorium programs and in other situations where united group activity is desired.

The twelve types of educational films here listed are of-

fered as a working basis rather than something which is final. In the future it may be expected that there will be other types appearing and that there will be many sub-classifications based on use. Furthermore, there are and will be combinations of types which will make exact classification difficult unless the educational goals to be achieved in the use of a given film are known.

It is hoped that this analysis of educational films will result in their more intelligent use and in developing more effective production patterns. Clearly a typical incentive film should not be used as a drill film and vice versa. Nor should a factual film be used in teaching dramatic appreciation to a class in English literature. Likewise a producer would be foolish to produce a narrative type film when an emulative type is indicated. The discussion of the twelve types of educational films should serve also to give the reader some notion of the broad extent to which films are being used effectively in education at all levels. More detailed accounts of the application of the motion picture to specific educational situations will be found in other chapters in this volume.

Limitations

At this point one might properly raise the questions, What are the limitations of the motion picture when applied to education? and What is its relation to other audio-visual teaching materials?

One limitation to the use of the motion picture in education is cost. Good films are expensive to produce and to buy. Projection equipment is expensive also and it requires the care of an experienced technician. Additional cost is entailed in properly equipping classrooms for film use. However, despite high initial costs, the school use of films in education is steadily increasing. A second limitation is that films are perishable and do not withstand wear and tear like many other less expensive teaching materials. Books, slides, models, wall maps, globes, charts, et cetera, resist continuous usage much better than

films. But all teaching materials need replacement from time to time. Experience shows that given reasonable care the life span of films can be increased to compare favorably with other materials.

A third limitation is that teachers often have difficulty securing a film when it is most needed. This is due in part to a lack of funds enabling the purchase of sufficient duplicate prints to supply the demand, and also to inadequate methods of distribution. Better coordinated planning would help prevent many disappointments when teachers order films. The distribution problem is still unsolved. Many believe that the decentralization of school film libraries is the answer. A fourth limitation is the lack of trained personnel. Teacher training institutions have been slow to provide adequate training for teachers in the intelligent use of films. Many teachers want to teach with motion pictures but are inhibited by a lack of know-how. It is gratifying to note that courses in audio-visual education are being established in teacher training institutions throughout the country in unprecedented numbers. There is also a lack of trained technicians in schools to operate and care for the equipment needed in the effective projection of motion pictures. This difficulty is in part being met by organizing projectionist clubs among the older boys. Teachers will make more extensive use of films when they are relieved of handling heavy equipment.

Finally, there are limitations inherent in the nature of the motion picture itself. It moves too fast on the screen for contemplative study, unless projected many times. It cannot be substituted for language activities but it can serve as a springboard for the development of rich language experiences. It would add to the educational value of films if there were a practical way to produce stereoscopic effects, which would add to their lifelike qualities. But even if inexpensive methods for producing three dimensional illusions were to be developed there would still be the basic limitation that motion pictures

in and of themselves do not teach. Learning is the resultant of one's activity, guided and directed by competent teachers. The film can stimulate activity but unless there is a directed response to the ideas which it communicates, the learning products will not be fruitful.

The well-balanced audio-visual program in education is characterized by the the use of many teaching aids of which the motion picture is one. That it is an important member of the audio-visual technical family is clearly indicated by the discussion set forth in this chapter. However, because of its unique advantage in being able to depict action and behavior with its irresistible illusion of life and reality, it is sometimes employed to communicate ideas which could far better have been left to materials more suited to the accomplishment of the desired result. Producers of educational films should leave still life to the slide and slidefilm. And because of their expense, motion pictures should not be used to present concepts which are common everyday experience nor which could be taught with inexpensive materials such as models, objects or wall charts. The combination of the motion picture with slides or slidefilms in which the latter are employed for follow-up discussion and review of salient points appears to possess possibilities worthy of serious experimentation.

Audio-visual teaching materials of all types nave their advantages and disadvantages. Each has a contribution to make in the improvement of educational methodology. However, it is clear that of all the modern educational tools, the motion picture possesses qualities which rank it along with the printing press as one of man's great achievements in developing methods of mass communication. Harnessed to the problems of world education, the motion picture could, in the sober thought of many, lay the foundation of human understanding so essential to world peace.

CHAPTER III

THE PSYCHOLOGY OF SEEING MOTION PICTURES

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There is no denying that the motion picture is holding the spotlight in modern civilization. Producers, entertainers, advertisers, and educators alike recognize this universal appeal. Rather than contend themselves with statistical data, relative to the present status or future potentialities of pictures in motion they are raising questions such as these:

1. What is the nature of seeing?
2. What sensory, neural and motor processes are involved?
3. What are the basic eye movement laws and tendencies?
4. How is seeing still pictures different from seeing pictures in motion?
5. What accounts for the universal appeal of the motion picture?

The effectiveness of the motion picture can only be understood after a careful analysis of the nature of human behavior. To make such an analysis presupposes a knowledge of the biological organism with its sensory, neural, and motor mechanisms and the role each plays in human behavior.

Ocular Performance

Since the eyes are the most important of the sensory mechanism in viewing pictures it becomes apparent that the per-

formance of the human eye as sensory motor organ provides a psychological approach to this all important study of the "Psychology of Seeing." To accomplish this a bidimensional eye movement camera is employed. By means of this device the location, sequence, frequency, and duration of every eye fixation as well as the distance and direction of every excursion is recorded on motion picture film.

To photograph the unconscious adjustments of the human eye and thus reproduce an ocular pattern which becomes a permanent record for scientific analysis is both an art and a science. Such a record yields data indispensable in the interpretation and evaluation of ocular performance. The mind of man is revealed by behavior of some kind, but no single organ of the anatomical mechanism has as truly a sensory and motor functions as the eye in motion.

Eye movements serving as objective symptoms of perceptual processes are readily discovered and accurately located by means of photography, even if the underlying motives are unknown to either the subject or investigator. Whether the subject is studying a problem with the intent to solve it, whether his eyes are caught by the appeal of advertising or editorial copy, or whether he merely looks at a picture still or in motion for information or appreciation, in every case the eyes follow a definite course as truly as a stream winds its way to a specified destination.

The intellectual capacity of the observer due to heredity and past experience, the purpose of the observer, as well as the nature of the observed field, all in one way or another play a definite role in determining the ocular performance of the observer. Such an ocular pattern when recorded by a camera becomes a permanent record of the performance for a given task and stands as evidence of the nature of the sensory and motor experience of the individual.

The Nature of Seeing

To properly evaluate the meaning and importance of seeing is to understand the physical, physiological processes which constitutes the seeing process. For the past ten or more years the author has studied the ocular performance of thousands of eyes and has arrived at the conclusion that the response to pictures, still or in motion, advertising and illumination, may be scientifically evaluated.

Similarities as well as differences of the eye and camera are apparent when comparing the mechanisms as reproducing media.

Similarities

MECHANICAL CAMERA	HUMAN EYE
1. Image focused on sensitized film by means of lens.	1. Image focused on retina by means of a lens.
2. Image on camera reversed.	2. Image in retina reversed.
3. Image on film focused by means of a lens.	3. Image on retina focused by means of a lens.

Differences

MECHANICAL CAMERA	HUMAN EYE
1. Limited to single exposure.	1. Retina constantly resensatized
2. Records permanently.	2. Records momentarily.
3. Mechanical lens adjustment.	3. Automatic lens accommodation.
4. Two-dimensional picture.	4. Three-dimensional picture.
5. Air filled medium.	5. Aqueous and vitrous filled medium.
6. Minor light variation effects image greatly.	6. Pronounced light variation tolerated.
7. Camera box rectangular.	7. Camera box spherical.
8. Reproduces uniform image on film.	8. Reproduces mental image unevenly.
9. Negative picture only.	9. Positive picture transmitted.
10. Curvature of lens static.	10. Curvature of lens changes.
11. Aperture of camera open for only fraction of a second.	11. Aperture of eye open constantly.

Physical conditions underlying seeing are very similar to those of a photographic camera. Light is reflected from an object and projected upon a sensitized plate which when developed constitutes a production of the object photographed. Adequate light, focus and orientation are necessary pre-requisites in providing images without distortion for both the human eye and the mechanical camera.

Seeing Is a Sensory Experience

It is obvious that to see is to experience a sensation. This sensation is evidently the response of the nervous system to such variables as color, size, distance, motion, etc. The sensitized plate of a camera reproduces a relatively uniform image, but the human eye, due to mental interaction, may suppress certain areas of the sensitized cell area and enhance others. The more intense the focus of a given field, the more sketchy and obscure the adjoining areas.

Our eyes are essentially compository devices, and do not as commonly believed collect and transmit accurate indices of the physical stimuli in the external enviroment. There is no one-to-one relationship between the neural response and the physical events which produce them.

Impulses from other senses (ears, muscles, nose, skin) relay and add their respective reports to complete the picture. Thus the act of seeing is not a single response to retinal stimuli but is contingent upon and modified by other sensory and motor processes.

Sensory experience coupled with habit patterns provide cues for judging objects near and far as well as for estimating size, and angles of areas and lines respectively.

Seeing Is a Motor Experience

Contrary to common belief, the eye does not glide over a picture or along the line of print when reading. It covers the area in jumps and stops which are known as fixations and excursions or eye movements. The human eye makes an aver-

age of four (4) fixations per second. This is equal to 240 fixations per minute or 1,440 per hour. If these eye movements were converted into sounds so that we could hear them, it would be like listening to the ra-ta-ta-tat of a machine gun. Under such demonstrations as this we would be even more impressed with the consistency or inconsistency of our eyes in motion.

The eyes at work provide us with a better concept of their importance and function than we are able to obtain when observing these sensory-motor organs in a static state. Clear vision takes place only when the eye fixates or comes to rest. The eye is temporarily blinded while in motion.

The excursions are the movements of the eye from one fixation to another, and the relative time devoted to eye fixation and excursion is to the ratio of 9 to 1 respectively. The distance of excursions may vary from a few millimeters to a distance stretching completely across a given field.

Excursions are anticipatory and, whether conscious or unconscious, every eye-movement accepts as its main purpose the task of adjusting the line of regard in such a way that the observer may see more clearly and organize more adequately the content under observation. Seeing as a form of perception is essentially a motor rather than a sensory operation. This does not imply that stimuli or sensory responses to stimuli are insignificant or dispensible. It simply means that the acquisition of a certain action pattern is the basis for efficient seeing.

Seeing, interpreted as the habitual action pattern of the mind, or nervous system, presupposes the selection or rejection of certain stimuli of an exposed field. This is evident when analyzing our response to pictures which as a result of our new interpretation change in structure and relationships. If seeing is determined by action patterns and if these patterns are fashioned by training as are other human skills, it behooves us to evaluate by means of photography the ocular patterns symptomatic of the neural organization.

What we see as a response to stimuli is not determined so much by the physical stimuli which meet the eye as what we do about it. Seeing is habitual and is the result of practice and training. It is in this respect no different from any other acquired skills of our hands, tongue, or feet.

Seeing Is a Psychological Experience

Seeing is more than vision. It is not only a physical or physiological response to a stimuli but in addition is an interpretation of the response to a given situation. Psychologically speaking, ocular patterns may reveal the nature of attention, interest, habits, and individual differences as well as preferences, abilities, aptitudes and personality traints.

To see is to perceive and interpret whatever is observed. In reality, we do not see with our eyes. These provide only an avenue for sensory experience, which becomes reality as a result of the interpretation of the human mind. This is the material which constitutes the real seeing content. Only after the sensory experience has passed these stages is it ready for practical consumption.

Due to the selective process of attention, interests, and interpretation, certain areas of the observed field rise and others fade into obscurity. Not only is seeing determined by the selective and discriminating habits of the observer, but it in addition serves as an amplifying process.

In spite of the fact that we have two eyes and consequently two ocular images, we are normally aware of only one mental image. It is a case of single vision resulting from a double exposure.

The ocular performance reveals not only the characteristic responses to such physical conditions as color, illumination, sound and motion but provides information about the physiological effect of fatigue, drugs, and toxins in the organism, and in addition reveals the nature of such mental processes as interest, methods of observation, and innumerable subconscious drives and motives.

Basic Eye Movement Laws and Tendencies

Based upon research, numerous laws and tendencies of the ocular performance have been revealed by means of photography. The study of ocular patterns is significant first because it suggests that one type of ocular performance is preferred over another; and secondly, it raises the question whether a certain type of behavior is due to physical stimuli, the physiological organization of the nervous system, or the habitual mode of behavior, or a combination of the three.

To discover whether the eyes themselves tend to follow a consistent pattern or whether they move at random, without rhyme or reason, has been the major objective in all of the research studies dealing with ocular performance. In attempting to discover basic eye movement tendencies as revealed by ocular patterns, solutions to numerous questions have been found. Among ocular preferences most consistantly revealed are:

1. Initial fixations fall at a point to the left and above the center of a given field.
2. Successive movements of the eyes procede upward and to the left following the initial fixation.
3. Significantly more time is spent on the left and upper half, than on the right and lower half of an observed area.
4. Eyes rarely make more than three or four fixations in succession before changing their course of direction.
5. There is a strong tendency for eyes to move in a clockwise manner in the first exploratory trip over a layout.
6. The ratio of excursion frequency and excursion distance is about 2 to 1 in favor of the horizontal movements.
7. Two types of eye movements are commonly employed, the initial survey and the detailed examination.
8. The center area of a typical layout is preferred to comparable areas on either side of an observed field.

9. Pictorial copy has greater attention value than copy in print and provides greater freedom for eyes to move spontaneously.
10. Color has attentional advantages over black and white and serves as a unifying agent in the interpretation of pictorial copy.

When developing or exhibiting pictorial materials still or in motion it is imperative that laws and tendencies of ocular performance be taken into consideration. By so doing, educators and entertainers will provide information and enjoyment for the observer with a minimum of energy and a maximum of satisfaction for the observer. Only by a scientific evaluation of the response of the observer can the adequacy of the composition, sound, and motion of the picture be ascertained.

Response to Still and Motion Pictures Compared

Orientation: In observing still pictures, the initial fixation falls at a point to the left and above the center and progresses from that of general survey to that of a more detailed examination. This general survey tends to be absent as revealed by the ocular performance of the spectator when seeing the motion picture. Composition, continuity, and implied action are determinants of ocular performance when viewing the still picture, while sound and action are highly directive in the motion picture.

In observing a symmetrical field more time is devoted to the left and upper half of a still picture than to the right and lower half. Horizontal eye movements are as a rule facilitated in viewing still picture, while vertical movements are inhibited.

Due to the shifting of the camera scenes and the directive effectives of sound and action, preferred position and horizontal eye movements, prevelant when observing the still picture, are conspicuously absent when looking at the picture in motion.

Seldom are the eye-movements strictly horizontal or vertical in both the still and motion picture, but rather tend to

procede diagonally, and rarely if ever are more than three or four fixations made successively in a straight line before they change their course of direction.

Concentration: Looking at pictures in books and periodicals implies distractions resulting from attention to adjoining copy, advertisements, cut lines, illumination, and numerous physical and social changes in the enviroment. The motion picture, presented as it is in a darkened room, reduces distraction to a minimum. As a consequency, the focus of attention is on the picture only.

To appraise the attention gaining and sustaining power of the motion picture is to evaluate the various mental processes involved. Ocular performance implies that attention is attracted to areas where fixations are most densely concentrated. Our task is to discover to what extent attention was attracted to certain areas. By varying the stimulus, the purpose and habits of observer, the relative influence of these variables can be determined.

Consciousness is not uniform. During intensive concentration one group of impressions becomes exceedingly clear while others fall into obscurity. This process continues as an individual observes a picture or landscape until the entire field has been surveyed.

Attention is fundamentally a change in the clearness of some phase or aspect of a mental process. Some of the characteristics of attention revealed by experimenal psychology clearly indicate that attention is always active, very selective, exceedingly mobile, and highly conscious. To verify the above statement one needs only to examine a few ocular patterns and it becomes apparent that there is no such thing as inactive or passive attention.

Attention as manifested by an audience viewing a motion picture is characteristic of attention at its best. The wide range of appeal and the persistance of sustained attention call for an explanation of the processes involved. Since the human eye in motion is symptomatic of the mind behind it, we discover

that attention to one single point can be maintained for but a fraction of a second, and the motion picture with its ever changing scene is in tune with what the eye and mind by their very nature prefer to do.

In a still picture it is for the mind to give direction to the eye. Where we go from here is largely determined by the purpose of the observer and the composition of the picture. The ocular patterns of individuals looking at motion pictures follow the sequence of events and activity, and as a consequence the eye and mind *follow* rather than lead as in looking at a still picture. Fortunately or unfortunately involuntary attention dominates the situation and a high degree of satisfaction accompanies the experience. Such a high degree of satisfaction is not present when reading a book or looking at still pictures.

The extent to which our attention in seeing a motion picture is determined by the nature of the visual field under observation or the spellbinding anticipation of things to come is difficult to ascertain. Since the response to the picture and the anticipation of events to follow operate simultaneously and alternatively, it is likely that the motion picture has decided advantages over the still pictures in this respect.

The motion picture has psychological advantages not only because of the ever-changing scene or the anticipation of the observer to that which is to follow, but because of the effect of sounds, vocal or mechanical, which give to the picture meaning and direction. Here again no clear line of differentiation between sound and action can be drawn. While sound is a powerful directive in attention, it is likely that characteristic action predominates when the two are simultaneously expressed. This is best illustrated when studying the ocular performance of an individual looking at male and female characters speaking in a scene. Even though the source of the sound is in reverse of the picture the movement of the mouth and gestures of the body will determine, although incorrectly, the location of the sound.

The perpetual change of the physical field, the anticipation of the observer, and the directive force of the sound effects are probably the three major advantages of the motion picture as a medium of communication. This no doubt accounts in part for the wide range of its appeal and for the prolonged period over which attention is sustained.

Relaxation: Looking at pictures and copy in books and periodicals requires the convergence of the two eyes in order to produce a single non-distorted image on the retina.

Not only is convergence (eyes turned inward) for near vision or divergence (eyes turned outward) for distant vision necessary, but in addition the curvature of the crystaline lens is adjusted to accommodate distance variations.

During near vision (reading distance) the accommodation lens in each eye approaches convexity bending the light rays more steeply, while in distant vision lenses approach concavity bending the light rays less steeply for visual focusing.

Modern inventions have eliminated much of human drudgery, and in its place have been provided innumerable comforts and conveniences. At the same time, however, burdens and responsibilities of seeing have been greatly increased. Progressive civilization has made necessary the multiplication of visual tasks to be performed in a man-made world. Millions of persons in business, industry, and schools, and professions are performing difficult critical tasks of precision daily.

The fact that eyes are more relaxed when observing distant objects or scenes is in favor of the motion picture. During distant vision, eyes diverge and the lenses change into a state of non-accommodation. Spectators seated 50 or more feet from the motion picture screen reduce their muscular effort and likewise their nervous tension which frequently accompanies near vision.

When the spectators are seated at points 100, 75, 50, or 25 feet from a screen 20 feet wide by 16 feet high, the area their eyes actually cover at reading distance is 3.6, 4.8, 7.2,

and 14.6 by 2.7, 3.6, 5.4 and 10.8 inches respectively. This is considerably smaller than periodicals which are approximately 24 inches wide when open. This small area to be covered by the human eye accounts for the many objects and events that can be comprehended in a single eyeful. Spectators seated near the screen naturally have a wider area to cover. The distance most desirable for seeing a motion picture is a distance equal twice the width of the motion picture screen.

Active Participation: The bulk of recorded knowledge, multiplication of books and periodicals, dissemination of information by the press and radio are responsible for the dominance of verbalization in modern communication. This tendency has led to the practice of memorized verbalized information and has in many instances failed to aid understanding.

To call attention to the limitations of the printed or spoken word does not mean that this form of communication must be discarded; it simply implies that a new and better method of training should supplement the presentation of all information.

The most natural, most effective, and most permanent type of education is active personal participation. The chances of information and behavior becoming permanent is far greater following the performance of an act such as learning to ride a bicycle, building a rabbit trap, or baking a cake than when listening to a lecture or reading a book.

The motion picture, representing reality as it does, provides for the growing, developing child an experience very similar to that found in real life. It is a means of bridging the wide gap which now exists between theory and practice in the work-a-day world.

This separation of theory in our school from practices in industry, business and the professions has caused an *ism to* dominate our educational system to the extent that children may be literate and at the same time uneducated. This *ism* to which I refer is *verbalism*. Concepts are best developed by repeated personal experiences and accompanied by words

representing objects or events. A concept is an idea which may be called a summary of many experiences and thus may be used to express them and to convey meaning or feeling to others.

Too often words or symbols are used, devoid of meaning because experience did not precede their creation. By means of the motion pictures many of the concepts now inadequate may be revived and recreated by observing objects and events as they exist today or as they were yesterday.

Since first-hand participation is frequently inaccessible and impractical, the motion pictures provides a representation of experience in life so vivid and realistic that the observer profits from it as though it were his own experience.

The audio-visual aids rival active participation because they present events naturally and in sequence and hence provide an umimpeded whole rather than fragments or parts in isolation. A child remembers, for example, what a cat or dog is by what they do rather than what they are. Characters and animals thus become reality, and the child's attitude and action toward them are affected accordingly.

The mind operates, as it were, a miniature motion picture camera as one reads or listens to someone speak; but it is to be expected that such a picture of sequence of pictures is sketchy and incomplete, and hence has a limited insurance of retention and recall. Motion pictures are effective to the extent to which they approximate reality, appeal to interests, and stimulate sensory and motor processes. As in verbalized education, pictures to provide experience similar to that accomplished during active participation need to be adapted to the intellectual level of the observer in order to fulfill the conditions stated above.

Universal Appeal of the Motion Picture

In conclusion, it may be said that the most reliable criteria for judging the conditions underlying the universal appeal of

the motion picture is to evaluate the response of the spectator to them.

To accomplish this it is necessary first of all to understand the nature and function of the visual and auditory senses. These constitute the major receptors necessary for the admission of light and sound for conversion into nerve impulses and finally into mental images.

Conditions most conducive to the highest form of participation when seeing motion pictures may be summarized as follows:

1. Distraction is reduced to a minimum.
2. Actions are highly directive, and hence a minimum of effort is required to follow the sequences. In a still picture the mind must lead while in a motion picture it may follow.
3. Distant vision permitting divergence and non-accommodation of the eyes is relaxing.
4. A multiple of objects and activities are crowded into a small area permitting seeing more in a single fixation (an eyeful).
5. Sound in keeping with the composition of the picture and action provides a basis for imagination and anticipation.
6. The sequence of events and the continuity of action provide a basis for organization and integration.
7. The realistic nature of scenes and action facilitates identification and active participation.
8. The invisible is made visible by slowing down motion that is too fast for the human eye to follow, or by speeding up action too slow to be comprehended.
9. By means of animation movements, manipulations and abstract concepts are made intelligible.

By making scientific investigations of the physical, physiological, and psychological conditions underlying human be-

havior, we may expect to find a ready answer to the "why" of the effectiveness of the motion picture. Directive orientation, intensive concentration, spontaneous relaxation, and active participation provide the basis for the universal appeal of the picture in motion.

CHAPTER IV

RESEARCH IN THE EDUCATIONAL FILM FIELD

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An Introduction to Educational Film Research

The motion picture has come to have great significance for present day education. The recognition of the growth and possibilities of this instrument has led to many recent investigations in this field. Many different people and professions are interested in the development of the motion picture. The sclentist, educator, theologian, physician, industrialist, and people of the entertainment world are anxious to utilize its values and assets. This, perhaps, is due in part to the particular ability of films to attract the attention and hold the interest of so great a variety of people. Films make a strong appeal to all ages, levels, and races of people. The motion picture is scarcely fifty years old and yet it is so well established that few if any Americans would care to consider the loss of its stimulating influence. In spite of the contributions made by people of other nations, the motion picture is characteristically American. It is closely associated with the development of national life of our people and tells a fascinating story of a portion of American history.

The use which is now being made of the motion picture as an aid to learning is decidedly on the increase. This is substantiated by the fact that more experimental investigations are constantly being performed over wider areas affecting the educative process. There is also an increased number of educa-

tional films which deal with various phases and aspects of the learning situation. Films are being produced for the purpose of directing learning in specific vocational areas; they are coming to have a greater part in providing certain techniques and skills; and courses in technical fields profit much by the use of films.

There is much more literature on the subject of educational motion pictures today than there was a decade ago. Only a few years ago you could hardly find the motion picture listed in the *Readers Guide* and *Educational Index*. Whereas, today you find a long list of study reference together with surveys and research studies. With the motion picture so well established as an aid to learning, study and experimentation are now concentrating on the improvement of films and their most effective use. Institutions of higher learning are initiating programs which will provide the best technical skill in the development of up-to-date educational films.

The problem of the kind of films to use in education has been both interesting and irritating to many persons who have attempted to use the film as an aid to educational work. It is only reasonable to suppose that many perplexing items regarding the use of films naturally arise when any one considers the best interests of the learner. Some of the more pertinent problems are: (1) the kind and nature of the film used, (2) the objective or purpose of the film, (3) the validity and mechanical accuracy, (4) the extent to which it may be used as an aid to teaching or as a method in itself, (5) comparative effectiveness of silent and sound films, and (6) the effectiveness of color as compared with black and white. Many of these problems have been approached in a scientific manner, but the field of research and study has by no means been exhausted.

There have been outstanding experimental research studies reported in the fields of psychology and educational psychology which were basic to the early progress made in these fields. Among the notable studies which have been reported

are those of Sir Francis Galton on individual differences; I. P. Paylov, the Russian scientist, on conditioned reflex; Alfred Binet, on measurement of mental ability; Walter B. Cannon, on emotional disturbance; K. S. Lashley, on habit formation; J. M. Cattell on mental reaction time; and Kohler's experiment on perception and learning. As these experiments have been basic to the progress which was made in the field of psychology and educational psychology, the following mentioned experiments are likewise basic to the progress made in the field of educational motion pictures. They are: Hermann Helmholtz, on vision; Raymond Dodge, on the study of the eye; Frank N. Freeman, on the comparative values of the motion picture and methods of instruction; the Eastman-Wood-Freeman experiment, to determine the value of motion pictures in geography and general science; Phillips J. Rulon, on sound motion pictures in science teaching; C. F. Hoban, Jr., on the types of studies; A. L. Long, on the influence of color in learning; and David J. Goodman, on the effectiveness of pictorial teaching aids.

The Development of Film Research

A review of experimental studies in the field of visual instruction shows that probably the first educational interest of significance was expressed by Averill[1] in 1915 in an article on the educational possibilities of motion pictures. This was not an experiment, but rather a suggestive article indicating areas in which further work should be done. A brief summary and evaluation of some of the more important educational studies in this field will indicate to what extent this work has progressed. The research studies referred to in the following pages deal with the educational 16mm sound, silent, black and white, and color films. An attempt is made to give an account of several studies which represent the various phases of re-

[1] Lawerence Augustus Averill, "Educational Possibilities of the Motion Picture," *Educational Review*, 50:392-448, November, 1915.

search in this particular field. A number of representative studies are listed and briefly discribed on the following pages.

1. *Sumstine Experiment*

Sumstine's[2] study of 1918 was the next to follow that of Averill. His experiment dealt with the effectiveness of the motion picture as a means of lesson presentation. This is an intensive scientific investigation conducted with 475 subjects in four high school grades which were classified into three separate groups as shown in the following table.

TABLE I

Some of the Numerical Results of Sumstine's Experiment

Period	Film	Film Lecture	Lecture
24 hours	73.9	70.8	67.8
10 days	60.2	56.5	51.5
3 months	72.8	60.2	61.1

Table I shows the results of the experiment for these different groups and the effectiveness of results when used at different time limits. After twenty-four hours those students who saw the film, made an average score of 73.9; the lecture group had an average score of 67.8. After ten days had elapsed the film again reached first place in effectiveness with an average score of 60.2; the lecture group had an average score of 51.5. After three months had elapsed, the film group was first with an average score of 72.8, whereas the film lecture group had an average score of 60.2, and the lecture group had an average score of 61.1. Thus, the comparative effectiveness of the film is demonstrated in different learning situations with a reasonably large group of high school pupils.

[2] David R. Sumstine, "A Comparative Study of Visual Instruction in the High School," *School and Society*, 7:235-38, February, 1918.

2. *Weber Experiment*

One of the pioneers in the field of visual education was Weber,[3] who studied the comparative effectiveness of some visual aids in seventh grade instruction. This study was conducted in one of the public schools of New York City in 1922. The purpose of the study was to compare the effectiveness of an oral lesson with that of a lesson taught by means of a motion picture film. Five hundred pupils of the seventh grade, classified into three groups, were used in the study. There were one "non-film" and two "film" groups. In the non-film group, the lesson consisted of a twenty-five minute lecture which was followed by a review period. In the two film groups, the lesson consisted of a twenty-five minute lecture and the showing of the film for twelve minutes. In the film group, the lecture preceded the showing the film. In all cases the same teacher gave the lecture. Some of the pertinent results of the study were : (1) by the use of the film there was an increase in the learning effectiveness and a high degree of satisfaction experienced by the subjects; (2) pictures should precede a lesson when subject matter is relatively foreign to the learners; (3) motion pictures as a means of visual aid instruction was preferred by the experimental group.

3. *The University of Chicago Experiments*

The University of Chicago experiments which were initiated in 1924 consisted of a series of studies under the direction of Freeman.[4] There were twelve trained persons who, under the direction of Freeman, investigated many aspects of visual education. This group attempted to determine the comparative value of the motion picture and other methods of instruction such as oral teaching and the use of visual aids. They sought to ascertain the elements of instruction which are the most

[3] Joseph J. Weber "Comparative Effectiveness of Some Visual Aids in Seventh Grade Instruction" (Chicago; Educational Screen, Inc., 1922).

[4] Frank N. Freeman, *Visual Education* (Chicago: The University of Chicago Press, 1924).

effective, the conditions under which they are effective and the characteristics which make visual aids of value as a means of instruction. Students used in these experiments were placed into comparable groups on the basis of mental ability and achievement tests and chronological ages. Units of subject matter used for purposes of instruction were taken from geography, history, health education, natural history, economic history, physical geography, general science, handwork, physics, handwriting and home economics. In all, there were thirteen different studies made in this series of investigations. For the most part, comparisons were made between the presentation of subject presented by the oral method and that of subject matter presented by use of various types of visual aid such as slides, stereographs, maps, lectures illustrated by blackboard drawings and demonstrations by the teacher. This series of studies consists largely of a comparison between various forms of visual education or between visual and nonvisual methods. The results of these experiments indicated that the effectiveness of the visual aid used depends upon its adaptation to the nature of the subject which is being taught and actual quality of the visual aid which is used. These investigations did much to add to the stabilization of visual aids as an effective means of instruction.

4. *The Eastman-Wood-Freeman Experiment*[5]

The purpose of this investigation was to determine the value of an integrated series of motion pictures used as an integral part of units of instruction in geography and general science. The study was an ambitious undertaking: it included twelve cities, eleven thousand students, and two hundred teachers. Ten units of instruction were used in each of the two subject-matter fields. The units of instruction were carefully outlined and taught alike in parallel classes; except for one group of classes the instruction was based on the films.

[5] Frank N. Freeman and Ben D. Wood, *Motion Pictures in the Classroom* (New York: Houghton Mifflin Company, 1929).

The experimental (film) and control (non-film) groups were selected by the local school authorities. The experimental group and control group had little or no contact with each other as the experiment proceeded. The experimental group began the study with several handicaps: the intelligence and achievement scores were inferior to those of the control group. Three types of objective tests were given to both groups; these tests were used to measure acquisition and retention. One test was given at the beginning of the experiment, one in the middle, and the other at the conclusion of the study. A large majority of the teachers agreed that the films increased the interest of the children in their work, which resulted in their doing more outside reading and caused them to collect more illustrative material. In spite of the handicaps of the experimental (film) group, the general conclusion is that it was superior in both the indirect, interpretative outcomes of instruction and in the immediate, concrete and direct outcomes.

5. *The Arnspiger Experiment*

The study by Arnspiger[6] was a thorough and extensive investigation. It embraced five large cities in three different states, approximately 2,500 students, thirty-two classes and sixty-four teachers. The experiment covered a full year of school work. The experimental-control technique was used throughout the study. The purpose of the investigation was to determine the relative effectiveness of teaching with the aid of certain talking pictures in the field of natural science and music, in grades five and seven, and of the visual methods of classroom instruction. Pupils in the control groups were taught by the conventional method without the aid of sound films, whereas pupils in the experimental groups were presented with three showings of each picture during the regular class period. Eight sound films in all were used in the experiment, together

6 Varney C. Arnspiger, *Measuring the Effectiveness of Sound Pictures As Teaching Aids*, Bureau of Publications, Contribution to Education (New York: Teacher's College, Columbia University Press, 1933), No. 565.

with supplementary materials. Objective tests were constructed and validated on the basis of the material contained in the units and films. Classes were equated and paired on the basis of intelligence and social background.

The experimental group was known as the film group and the control group as the non-film group. Objective tests were given at the beginning and end of the experiment. These tests were administered by the experimenter and in no case were the classroom teachers permitted to see or administer the test materials. Short tests were given at the conclusion of each unit. All teachers were furnished with identical units of instruction which were to serve as a guide in teaching. In considering the results of the pupils of the combined cities, it is significant to note that the differences in mean gains were greater for the experimental group than for the control group in the case of every unit in every city studied. There seems to be little or no question about the learning superiority of the experimental (film) groups over the control (non-film) groups, when one considers that for all cities combined the gains ranged from twenty to sixty per cent for the experimental groups.

6. *The Hoban Report*

Large extensive experimental studies in the field of visual education began to take shape and get under way between 1920-30. The twenty-year period covered by Hoban[7] in his report of experimental studies of visual education from 1918-37 includes and deals with studies of this kind. Sixty-one investigations form the basis of his study. One of these large studies was carried on under the direction of Freeman at the University of Chicago, which contained thirteen separate studies dealing with the various modes and phases of presentation of motion pictures and other non-visual instruction. This

[7] C. F. Hoban, Jr., "Experimental Research in Instructional Films," contained in *Motion Pictures in Education* (The H. W. Wilson Company, 1938.)

study received its financial support from the Commonwealth Fund, whose initial grant was $18,000. Hoban's report is valuable as a summary and appraisal of educational film research up to 1936.

7. *Ohio University Study*

Another extensive investigation which came in this period is the one which was carried on at the University of Ohio under the direction of Charters.[8] In this study the main interest centered around the social influence of the theatrical motion picture on society. This research study, was made possible by a grant from the Payne Fund, and came to be known as "The Payne Studies." This investigation dealt largely with the theatrical film and its influence on the public apart from the films considered educational. By way of inference, this study raises another problem of the film, that is, the out of school influence which the motion picture has on the child.

8. *The Hoban and Dale Report*

The Dale and Hoban[9] report is another study summarizing investigations up to and including the studies for 1939. To describe their investigations, Dale and Hoban say:

> The value of films, as determined by the application of certain criteria to sixty-three investigations which were evaluated, are classified according to six major aspects as indicated by the following number headings: (1) value of films with respect to various purposes; (2 effectiveness of films with "dull' and 'bright' pupils; (3) effectiveness of the films on various grade levels; (4) effectiveness of verbal commentary on the film presentation; (5) frequency and distribution of projection; (6) auditorium and classroom projection of films.

8 W. W. Charters, *Motion Pictures and Youth* (New York: The Macmillan Company, 1933).

9 Contained in, *Encyclopedia of Educational Research* (New York: The Macmillan Company, 1941), p. 1325.

In this summary there is a detailed discussion of each of the aspects mentioned above, including the gains in learning produced by the use of visual aids.

9. *The Kinder Report*

There is another summary of investigation and research study in the field of visual education since 1937, one reported by James S. Kinder.[10] In this study, little effort was made to limit the investigations to educational films. On the other hand, attention is given to the study and development of special attitudes by the use of educational films. This type of investigation is receiving more and more attention. Kinder points out the different aspects of visual education which have received recent study. He indicates the number and type of degrees earned for each year, and number of articles which deal with visual education, television, and radio. Kinder says,

> The following tables shows that 236 research studies were reported in visual education for the period 1918 through 1937, and of these 155 were master's theses and sixteen doctor's. Leaving the ten-year period 1919-1927 aside because the data may not be strictly comparable due to differences in methods of location, there are 220 studies noted. Of these 70.5 per cent were master's theses, 7.2 per cent doctor's theses and 22.2 per cent faculty researches.

This report tends to indicate the extent to which visual education is progressing in many different areas.

10. *The American Council on Education Project*

The Committee on Motion Pictures in Education of the American Council on Education made a study of the functions of the motion picture in general education and how the film facilitates the development of education through the use of

[10] James S. Kinder, "Summarizing Research Already Done in the Field and Disclosing Areas where Further Studies are Needed," *Educational Screen*, 18:360-61, December, 1939.

motion pictures. This study was carried on under the direction of Charles F. Hoban, Jr.[11] It was begun in 1937 and ended five years later in 1942, and was financed by a grant of $150,000 from the General Education Board.

A film catalogue listing and describing the different available films was compiled. Later it was decided that the films listed in the catalogue should be evaluated and that this evaluation should be made available to teachers in general, in order to assist them in making proper selection and effective use of films in the curriculum work of the schools.

There are a number of publications which resulted from this study: (1) *Focus on Learning;* (2) *A School Uses Motion Pictures;* (3) *Films on War and American Policy;* (4) *Projecting Motion Pictures in the Classroom;* (5) *Motion Pictures in a Modern Curriculum;* (6) *Students Make Motion Pictures;* (7) *The Other Americas Through Films and Records;* and (8) *Selected Educational Motion Pictures: A Descriptive Encyclopedia.*

For three years the committee spent most of its time and effort in the work of evaluating films. This was done in four different centers throughout the country. Hoban says:[12]

> Four centers cooperated for two years in the extensive study of motion pictures in the curriculum: Tower Hill School, Wilmington, Delaware: and the public schools of Denver, Colorado, and of Santa Barbara, California. Each of these was engaged in the development of curriculum programs. Supplement ing these centers during the second years of the evaluation program were the public schools of Minneapolis, Minnesota; Rochester, New York, and Pittsburgh, Pennsylvania; and a group of schools and colleges in the southeastern states, organized through the Division of General Extension of the University System of Georgia.

11 Charles F. Hoban, Jr., *Focus on Learning* (Washington, D. C.: American Council on Education, 1942).

12 *Ibd.*, p. 2.

11. *The Study of Color by Long*

A survey of research covering the years 1939-1945 was made beginning in 1944 and finishing in 1945.[13] The purpose of this study was to summarize the investigations reported in the field of educational motion pictures. There are seven large groupings under which forty-five different investigations seem logically to fall, and form the basis for the study. They are: (1) the use or effectiveness of educational films in teaching special subjects; (2) the effectiveness of educational film at various grade levels; (3) the use of educational films in developing attitudes and understandings; (4) standards of evaluation of educational films; (5) comparative effectiveness of different methods in the use of educational films; (6) the grade, range and economy of time of educational films; (7) historical and documentary investigations with educational films. Under each of the seven headings the type and kind of investigations are treated in a brief analytical manner.

On the basis of this survey, an experimental research study was conducted in 1945 regarding the influence of color on learning. The purpose of this study was to ascertain the influence of color films on acquisition and retention of information at two levels of pupil maturity; (1) fifth and sixth grade level; (2) the eleventh and twelfth grade level. These two groups were established by the use of standardized intelligence and achievement tests. Three hundred fifty pupils participated in the study. Ten films were shown to each group; five in color and five in black and white. A schedule for showing the films was developed for each group. Immediately following the showing of each film an objective test was given. A final test of objective measures was given to all the pupils four and one half months after the first showing of the films. The central idea around which the films centered was the *Good*

[13] A. L. Long, "Recent Experimental Investigations Dealing with Effectiveness of Audio-Visual Modes of Presentation," *Educational Administration and Supervision*, 31:65-78, February, 1945.

Neighbor Policy, which dealt with South American countries. No special effort was made to integrate the films with textbook materials.

12. *The Study of Wittich and Fowlkes*

The purpose of the study by Wittich and Fowlkes[14] was to discover the relative effectiveness of three methods of integrating the film with classroom activities. This study has as its major premise, that the text film makes a most valuable contribution to learning situations in the classroom. With this premise attested and verified, the study develops and evaluates three methods of using such a film to the greatest advantage in learning situations. This is true especially when learning is determined by the greatest amount of acquisition of factual knowledge and social understanding. It also seeks to determine to what extent intelligence and reading ability influence the child's ability to gain information from educational sound films.

In this study two hundred sixty four children in grades four, five and six were grouped into nine different groups in which twenty-seven were used. These children were tested on 100,000 separate responses. Each group was rotated through three experimental factors three times in the process of viewing the films. The experiment was in process for a period of nine months. A revealing phase of this study demonstrates that the manner in which the film is introduced into the classroom and utilized thereafter is a very significant factor in effective film use. It also shows that complete anticipation in seeing a film is more conducive to effective learning than is part anticipation. Again it shows that bright children profit as much from the use of films as do dull ones.

This published report also contains a concise classified summary of related experimental studies made up to 1946.

[14] Wittich, Walter Arno, and Fowlkes, John Guy, *Audio-Visual Paths to Learning.* (Harper and Bros., 1946).

Types of Film Research Studies

In the quarter of century or more that the educational motion picture has been in use by the schools there have been several hundred investigations reported. A large portion of these studies have been reported by classroom teachers who have become interested in the possibilities of the films and submitted a study as a part of the requirement for a higher degree, perhaps involving as many as three hundred masters and some fifty to one hundred doctors degrees recently earned from institutions of higher learning. Other research studies have been conducted by individuals representing commercial organizations or institutions along with certain faculty studies. While still other such studies have been subsidized by educational foundations or institutions of higher learning.

Any attempt to group or classify research studies in the field of educational motion pictures, would of necessity have to be made in large categories or on very broad basis. Only three groupings will be attempted. They are: *Intensive, Extensive,* and *Summary* studies. Perhaps it would be well to mention a few representive studies of each type.

1. *The Intensive study.*

In this type of study a special effort is made to concentrate every effort on some particular problem. Some of the first studies of motion pictures of which we have any record were done as individual studies. As a general rule the individual study is more intensive than the study which is done by co-authors or a group. However, in some instances the individual study has been very extensive. By an intensive study we mean the concentration of effort within a narrow scope or field of activity, with the purpose in mind to ascertain some particular bit of information or establish a principle. The intensive study is confined to searches or investigations which deal with problems of a specific nature. This is shown in some

of the previously mentioned studies, and in such as the studies made by David Sumstine, Joseph J. Weber, Irving Anderson, Irene Cypher, David Goodman, Abraham Krasker, and A. L. Long. In each of these studies an effort was made to ascertain the value of the film when used and tested under certain conditions in several situations.

2. *Extensive Study.*

There are few if any research studies made in the field of educational motion pictures which are alike in all details. However, there are several studies which have some traits in common and may be grouped as extensive studies. These studies involve large sums of money and numerous subjects in different areas and under different conditions. These conditions are rather uniquely illustrated in the following studies previously mentioned here: (1) The Eastman-Wood-Freeman Study, (2) The University of Ohio Study, (3) The Arnspiger Study, and (4) The Hoban Report.

3. *Summary Study.*

Now and then there are studies reported which tend to classify and give in a resume form just what has been done in certain fields or areas. These studies vary in: (1) the number of studies reported (2) the length of time covered by the study (3) the types of studies included in the report. A pioneer study of this type is that of the University of Chicago Study, conducted by Dr. Frank N. Freeman. This study was in process from 1924 to 1930. In connection with his study there resulted a dozen or more Master of Arts theses. The study reported by Charles F. Hoban, Jr., in 1937 classified the studies which had been made from 1918 to 1937. This report gave and interpreted experimentation in this field covering a period of twenty years. An entire section of the book *Motion Pictures in Education* is given to the study. The study listed by Dr. James Kinder reported the educational research studies which

were made from 1937 to 1939. In this study the attitudes developed by the use of films and the different aspects of the motion picture are stressed. The report given by A. L. Long from 1939 to 1945 is a summary study similar to the study reported by Charles F. Hoban, Jr., except it covers a period of only six years while the Hoban report covers a period of twenty years.

Conclusion

Business and industry are turning to films as a means of advertising, training, selling, and for public relations. There have been several companies formed for the purpose of making only religious films. The church, along with the general movement in education, business and industry, is fast realizing the possibilities of the film. It is now estimated that there are from five to ten thousand projectors in the churches of America and that within the next three years there will be twenty-five to thirty thousand projectors in the churches located in the different parts of the United States. One denomination has established a research commission with six groups of churches to act as experimental agencies located in the different parts of the United States. An effort is being made to determine (1) what kind of visual materials are needed in the local church (2) how these materials are related to the present church school curriculum.

As a general rule, the educational film is regarded as a means of stimulating learning which occurs in rather rapid order or fashion. Many studies tend to indicate the rapid rate at which attitudes, insights, relationships, and concepts are developed. The teaching of certain subjects such as the social studies, are rapidly being changed because of this quality of the film. This fact, in itself, much affects the teaching-learning situation.

It has been demonstrated that the permanence of learning when affected by the use of the educational film is decidedly superior to learning when done by the conventional classroom

method. The effectiveness of learning by the use of the film as compared to the lecture method of instruction shows rather conclusively the superiority of the film in acquisition and retention. It would seem that the superiority of the film is further evidenced when as much as three to four months time has elapsed between the initial learning and the final test. The permanence of learning is further attested by the use of color films as compared to the black and white films. In acquisition and retention the color film is as superior to the black and white film as the black and white film is to the lecture method of instruction.

The ability of the film to produce situations which appear real and vital to every detail is one explanation of why it is that children of low ability and limited opportunity do so well in their studies when films are correctly used. Another explanation for the success of children of this type showing improvement by the use of films is, that when abstractions are presented without the use of some concrete material they are more difficult to grasp, and the films by the use of the constant stream of images which are directed and controlled, make it easier or more simple for the child to grasp.

Each day that passes brings reports of new research findings which reaffirm or widen our knowledge of the educational film as one of the most potent forces in modern life.

PART TWO

The Educational Film In the Classroom

CHAPTER V

BASIC TECHNIQUES OF FILM USE

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As long as men have been working with the problem of a formal and controlled sequence of educational experiences through which learners may become more capable of meeting and successfully reacting to the problem of their environment, this question has been properly asked, "What is the relationship of education to the society that it must serve?" Beginning with the premise that formal or planned education must in some way influence the learner to meet better the demands of the society within which he lives, let us see what has been happening to the nature of this sequence of educational experience.

The society which education has been serving has changed drastically from the day when it included the one-room school in a county of Virginia, the Dame School nestled snuggly in the New England Valley, or the rural township school of the mid-western states. But just as truly as those frontier schools served an educational function in that society, we are concerned today with defining the nature of those experiences which may benefit the learner in his relationships in a modern world. The problem is one of curriculum construction—the formulation of a sum total pattern of experiences which the school holds itself responsible for bringing to the learner. The curriculum of the pioneer-day school was concerned with the immediate problems of winning a livelihood in the rural com-

socially significant environment of the entire world must be made understandable and meaningful to the learner—the man-made environment and the natural environment.

Today we are no longer satisfied with knowing what is or what happens within the boundaries of our valley or of our local community. *Today our problems of social importance concern themselves with the outermost reaches of the world itself. Today the world is our environment*—the world of nature and a world of diverse social and cultural patterns which men, over the face of the earth, have chosen to govern themselves by and live under. What does this imply?

The day of Mark Hopkins is past. No longer can school be described as a log with teacher on one end and pupil on the other. The teacher alone is no longer able to be a complete storehouse of experience from which the needs of the young learner may be satisfied. The magnitude of the task of education today is too broad.

Thus let us turn our attention first to the problem of defining the job of education today, and secondly to the problem of locating the means through which understandable, factual information and graphic presentation of our world environment can be brought into all classrooms and presented in meaningful and retainable ways to our learners.

Formerly the classroom teacher accepted certain limitations to learning. When contemplating the immediate environment, the able teacher took advantage of field-trip opportunities—opportunities to visit local industries and local community institutions. She was well aware that real teaching is accomplished through *realistic* teaching, through the opportunity to observe at firsthand, to participate directly, to manipulate, to inquire about, and to examine closely and leisurely. The average teacher is usually satisfied with learning experiences which she presents to her learners as they actually exist; and, if they can be examined firsthand, leisurely discussed, and questioned. However, the same teacher today finds herself totally inade-

quate to probe our historic past, to examine the cultural patterns of peoples who live thousands of miles away, or to bring into the classroom tangible evidences of natural environment which are remote or which occupy long periods of time to be accomplished. She admits that her inherent capacities as a teacher soon reach a point beyond which she must seek the advice of others, or must seek mechanical means of re-creating environments if she is to be realistic in the way she conducts her inquiry with her learners into such subject areas as geography, social studies, chemistry and physics, nature study, home economics, and the other remaining 19 curriculum areas.

For years the classroom teacher has been satisfied that there is little she can do about the limitations to the realistic study of history. She concedes inability to turn time back so that children could, at firsthand, "live" the experiences of generations long since dead. The teacher today has accepted the limitation of distance. The four walls of the classroom and poor school transportation facilities make firsthand excursions impossible among the peoples and cultural climates of foreign countries. Today the teachers of chemistry and physics and of nature study have likewise accepted a limitation—the inability of human observation to see everything that occurs in the natural environment.

But, during the last ten years all this should have been changed. Fortunately, we have developed technological means of documenting portions of our environment which heretofore were inaccessible to firsthand experiencing. Today, *through the means of the motion-picture camera and the environmental sound recorder, the traditional limitations of learning experiences have been overcome. It is now possible to document all phases of our natural man-made environment in 16mm sound form*—to edit this evidence carefully, to organize it into pedagogically acceptable sequences, and finally to present it to the learner who seeks information in any of the several phases of today's curriculum. Very fortunately, teachers everywhere have

been seizing the opportunities which the sound motion-picture films bring to supplement the current courses of study which it may be her responsibility to teach.

Even in the face of this new development, several problems have presented themselves as real difficulties. First is the tendency to use these newly produced supplementary teaching materials, 16mm sound teaching films, as entertainment or "extra" teaching opportunities. Second is the failure to properly integrate existing text or teaching film materials into the course of study *as a material of instruction which supplements and goes beyond the ability of the current classroom materials and methods in presenting understandable information to the learners.*

It is at this point, then, that the thinking teacher of today must ask two questions; one, "Have I assumed the responsibility of continually searching for supplementary informational materials in 16mm sound form which will truly assist in making my subject area understandable to the learners?" Secondly, "Having located these materials of instruction, am I using them in such a way that I am securing the greatest benefit from their use—greatest benefit in terms of information, in terms of retention, in terms of background experience which will influence attitude?" It is about these two teaching responsibilities that we must be concerned!

Problems of Selection

During the selection or evaluation of teaching materials which supplement courses of instruction, *one predominately first consideration exists.* Many of the produced materials are open to question because they do not make a contribution to the subject area which is above and beyond some of the traditionally well used methods of presentation, or sources of subject information currently in use. Any teacher who is interested in previewing, evaluating, and finally selecting supplementing information material, in this case in 16mm sound film form,

must ask herself this important question: "Is this material valid instructional material which I consider useful and necessary to establishing understanding in my subject?" And, "Does this film present this information in a way which is more efficient than methods which I am currently using?"

If not, the material is obviously of little use because it may only duplicate what already is being accomplished. If the film contains useful, acceptable informational material, and does present it in a way which is an improvement on what the teacher ordinarily does, then obviously the film material is essential. That film, then, should be incorporated as a supplementary learning experience into the course of study or into the classroom method plan.

Farther than this, it is only natural that the teacher should insist on such mechanical performance as good sound track; interesting and well balanced photography. Most important considerations then become:

—Does the material illuminate my subject matter study in a way which capitalizes upon the potential of the film medium?

—Does the film incorporate the use of animation when animation is desirable?

—Does the film use slow-motion photography when this is essential to the learning process?

—Does the film use environmental sound when evironmental sound is necessary to completely understand the environment portrayed?

—Is the pace leisural enough to allow understanding to develop?

The teacher of today must assume that she has the same responsibility when contemplating the selection and evaluation of sound film instructional material that she has for years assumed in selecting good, well edited textbook material of attractive format. Naturally, she has been a member of text

book evaluation committees for years, and has gradually eliminated all but those few sources of information which she sees as essential to her classroom learning environment. *Just so must the conscientious and professionally minded teacher of today assume a continuing responsibility for seeing, winnowing, and finally selecting those few indispensable teaching materials* without which her learning environment would be incomplete.

The next consideration which the teacher now feels, having selected the materials which she wants to include as supplements to the learning environment, is, "How best may I use these materials of instruction so that I will secure the largest percentage of the benefit which these new tools of instruction can bring to my learners?"

Considerations in the Utilization of Sound Film Teaching Materials

If there is one major point of view which should be brought to teachers who are contemplating the continuing use of audio-visual materials in the classroom, it would be this: *just as able teachers have, through years of proved teaching experience, worked out patterns of subject-matter presentation with respect to the textbook, the chart, the globe, and other traditional materials, so may these basic steps of instruction be applied to the newest material of teaching: the 16mm sound film.*

Too often, conscientious teachers are reticent about using the teaching film because they believe there is something mysterious, something very new, something very puzzling about the materials. This attitude should not be the case. The sound teaching film is *another teaching supplement*—it is without doubt the most spectacular, fascinating, vivid, interesting, and efficient material of instruction to be incorporated into our learning environment. Granting all of this, however, the sound teaching film *is not a substitute for the teacher. The teacher must use films* just as she has used traditional learning ma-

terials in order to get the greatest benefit from them. The efficient classroom use of the teaching film requires the guidance, the leadership, and the inspiration of the teacher if its benefits are to be felt by the learner. If the teacher will use the teaching film as she has used traditional teaching materials; if she will build anticipation and interest in its use as a teaching material; if she will precede film use with discussion, questions, or with anticipatory work which will overcome some of the inherent barriers to learning; if she will follow its use with discussion and with evaluation opportunities, again, just as she has used traditional teaching materials, *then the utilization pattern for the sound teaching film can be an established and worthwhile one which will yield greater factual assimilation and greater retention of information benefits to the learners.*

It is not my purpose to say that here is *the* effective way of using sound film in the classroom. Rather, it is my intention to show how the traditional pattern of teaching procedure can be applied to the classroom use of the sound film.

The responsibilities which a teacher should feel for the presentation of new subject sources of information via sound film materials are as follows:

1. The stage must be set—anticipation for the new learning experience must be heightened and interest must be awakened. Just as this has been a tried and tested teaching technique with traditional materials, so must this responsibility be met when the sound film is introduced as a supplementary learning experience. It is folly for any teacher to bring the teaching film into a learning situation as an "extra experience." It must never be that. The teaching film must be an integrated learning experience—anecdotal information related by the teacher, and inter-change of pupil experiences close to the subject being studied, are vital first steps in the pre-presentation of the sound teaching film experience itself.

2. Leading authorities have long since told us that vocab-

ulary barriers are the greatest single barriers to true understanding and continuing retention of information. Just as this has long been the case in the presentation of traditional teaching information, so is it a correlary in the presentation of the sound teaching film. Individuals approaching the comprehension of a sound track including vocabulary which is "unique," difficult, or unusual, find it blocks learning. It must be the responsibility of the teacher, through previewing and re-listening to single out and to segregate the possible vocabulary difficulties and to discuss and study these vocabulary items to the point of understanding before the whole film experience proper is to be experienced by the learners.

3. The actual experience of seeing and responding to the sound film may be presented.

4. The sound film learning experience should be followed by an opportunity for discussion. It is only through discussion that the able teacher can detect the degree to which information has been assimilated. Further opportunities for pupil evaluation certainly should be encouraged, either in the form of objective test situations, or through question-answer techniques. It is only as a result of evaluation experience that the degree to which information has been learned can be detected.

5. Repetitious exposure to the learning situation is to be encouraged in those cases where evaluation techniques have revealed a need for repetition. It has been the writer's experience, in practically all situations, that an additional experience with the sound film is necessary to clear up misunderstandings and to accentuate or locate further detail information contained in the sound film.

When we consider that the average 10-minute sound film contains as may concepts of information as does the average chapter in a social studies book, it is easy to understand why the learner often comes away from a "one-viewing experience" with only fragmentary information. The pace at which in-

formation is presented in many of the sound films that we have for use today makes repetition almost necessary.

6. Follow-up activities are to grow naturally out of the film experience. The sound film may become the basis from which further reading is pursued, discussion situations developed or from which oral or written composition may be planned. It is to be assumed that the well chosen sound film is another means of bringing background experiences into the classroom which will serve as a springboard to further student project experiences and investigation.

In most instances the sound film is to be thought of as a teaching supplement which will add realistic, clear cut, well organized, and graphically presented background information to the learner—background information which will increase the learner's understanding of the subject area he is investigating.*

With this brief suggestion as to the means by which the sound film is selected and integrated into the learning situation, it is hoped that the reader will pursue the specific considerations and recommendations which are included in the chapters that follow.

* For statistical evidence relating to the method recommended herein concerning the classroom use of the sound-motion picture film see Fowlkes & Wittich, *Audio-Visual Paths to Learning*, New York: Harper and Brothers, 1946.

CHAPTER VI

APPLICATIONS OF THE FILM IN READING*

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Films which have been used in the reading program fall into two general types: (a) those providing a background of experience for reading, and (b) those designed to develop particular reading skills. In this discussion, primary attention will be given to the use of films to provide background and stimulation for young readers. Brief consideration will also be given to the use and possibilities of films as a method of directly controlling the development of specific habits related to reading ability.

The use of films in the reading program is a recent development in education. Much of the interest in this new approach is associated with current ideas of how reading ability develops, particularly the conception that language development, including reading, is a function of the total growth of the individual. In recent years, terms such as "reading readiness" and "background of experience" have become commonplace in the professional literature. Many schools have changed and are changing their programs to fit the conception that children, as well as older readers, improve in reading ability most readily when their experiences are sufficiently challenging, varied, and rich to maintain a constant tension between their growing interests and their resources of communication.

* *Editor's Note*: For a discussion of film use in other areas and levels of the Language Arts program, see Chapter X.

The Film as Experience

Parents and teachers often report the verbal development of very young children in such terms as "Johnny knows the word for 'ball,' " or "Helen knows how to say 'monkey,' " or "Frank knows 40 words." When the child learns to read, we sometimes continue to make essentially similar statements having to do with quantity, difficulty, or grade level of the printed materials which the child is able to read.

Statements which grade reading ability on a scale of "knowing" certain words or "knowing" how to read materials of a certain level of difficulty are useful. Few teachers would say that such statements are complete descriptions of reading development. What is it that children and older pupils learn as they "learn to read"? What beyond words, in the formal sense? And what part do films play in this process?

The use of audio-visual aids of various types has long since become established as a method of mediating between the pupil and the world "outside" the classroom. Taking the broad view that whatever adds to the range and depth of the individual's experience contributes in some way and in some measure to his ability to read, it is not difficult to rationalize the statement that instructional films can serve an important function in the reading program. It is more difficult, however, to state with precision exactly what this function is. Our answer will depend upon (a) what we consider to be the relation between experience, in general, and reading, and (b) what kind of experience we consider films to be. The position with respect to (a) has been defined in the opening paragraphs of this chapter. The basic premise of this entire statement is that the pupil's reading ability, along with other aspects of language behavior, develops as a function of his growing experience, in the inclusive sense.* Granting the general importance of experiential background to reading, the remaining problem

* This in no way discounts the value of systematic instruction in reading, nor the importance of physiological and psychological factors.

is to determine how films "fit in" as a method of providing experience. This is a highly complex question with implications for the entire educational program. Much of the answer waits upon needed experimental evidence. All we can hope to do at this point is to suggest a partial answer.

The Film as Mediated Experience

Films, along with other audio-visual materials, are sometimes discussed as a type of "mediated" experience somewhere on a scale approaching the "outside" environment, on one hand, and pure verbal symbolism on the other. We may think of the instructional film as occupying a place on this scale relatively far removed from "pure" symbolism and relatively close to "immediate" experience, although the visual elements of the film are usually accompanied by interpretive verbal commentary. The analogy has its limitations, however, in that while the "real thing" may be conceived as a limit closely approached by educational motion pictures, it is also true that the film is something more than the "reality" it depicts.

As an instructional device, the motion picture selects and refines the raw material of its subject. The result is an experience which is mediated not merely in the sense of a mechanical transaction by which certain visual and auditory effects are captured and reproduced under controlled conditions, but also in the sense of an act of communication by which meanings implicit in the raw or natural situation are edited and made explicit. It is precisely this combination of transmission of sensory effects with translation of meanings, this joining of images and graphic symbols with verbal interpretation, which gives the instructional sound film its distinctive effect as an educational medium.

As a medium of communication, the film enjoys the tremendous advantage of being able to employ the universal language of vision along with all the inexhaustible resources of photographic representation. Obviously, the film presents

an endless range of possibilities for combining verbal symbols with iconic signs in photographic and other forms, a fact which presages the continued development and utilization of films as an aid to language development, including reading.

Using Films in the Primary Grades

There seems to be a growing awareness of the potential uses of good films in the language arts program in the lower grades. Many enthusiastic reports have been received from the field.

In Santa Barbara, for instance, one first-grade teacher found in films a method of stimulating reading, as well as a variety of other learning activities. The report of this interesting experiment describes a group of first-graders "stirred out of lethargy by motion pictures shown in school." How one of a series of films was used as a basis of reading and other language activities is told as follows:[1]

> "The next movie was *Adventures of Bunny Rabbit.* Coming as it did so close to Easter time, this film delighted the children. To its timeliness was added the fact that a big gray bunny was a 'member' of the class at this time.
>
> "After seeing the movie, the children told the story as they remembered it. The teacher wrote their story on the board and later on chart paper. As the children learned to read the story, small books were made so that they might take them home and read them to their parents. All these chart stories and books were illustrated by the children. A puppet show was made in the room, and the children played the 'Adventures of Bunny Rabbit' with their own paper puppets.
>
> "These activities led to many more. The children made up their own little stories and rhymes about

[1] Bell, Cain, Lamoreaux, and others, *Motion Pictures in a Modern Curriculum.* Washington: American Council on Education 1941.

Bunny Rabbit, how the bunny got up in the morning, hunted for his food, lay down to rest, ran and played, went to bed, and so on. Songs and poems centering around the movie were never difficult to find. The following story was included in an illustrated book made by the entire group:

"Mother Rabbit and her bunnies had a nest in a hole in the rocks.
"Mother Rabbit got food for her babies.
"One day Mother smelled the fox.
"Mr. Fox smelled Mother Rabbit.
"Mother Rabbit hid in the house.
"She told her bunnies to be quiet.
"Mr. Fox tried to get into the bunnies' house.
"Mr. Fox was too fat to get into the house.
"The white rabbit came to visit.
"She said, 'Come to the farm and get some lettuce.'
"Little Bunny went to get some lettuce.
"He met a frog.
"He met a turtle.
"He met a squirrel.
"He found lettuce in the greenhouse.
"The farmer did not want Bunny in his greenhouse.
"Bunny ran home to Mother."

After using a number of films, all contributing to the reading program, the teacher, Marjorie W. Riedel, made the following evaluation:[2]

"It is easy to make sweeping statements concerning the value of 'this method' or 'that tool' in the craftsmanship of teaching. But results must be tangible to carry weight. And it is the judgment of the teacher, based on her experience with the activities of this and many other first-grade groups, that the use of motion

[2] *Ibid.*

pictures in this class stimulated, guided, and enriched creative capacities in more than one aspect of the curriculum's scope and toward more than one of the Santa Barbara objectives. Aside from stimulation of interest and creative abilities, powers of observation were developed. The films seemed to draw out latent capacities for art and music. *They helped motivate poor readers, gave them a background of experience and meaning in preparation for the development of reading skills; it must be remembered also that willingness to learn to read had not been characteristic of this group.**

"But above all, the films helped to create a happier working attitude in the room and to develop a splendid spirit of cooperation. In 'recharging' the effectiveness of the teacher, the films more than compensated for the extra hours which the teacher put into the experiment."

Another typical report describes specifically how one teacher used an instructional film to promote reading in a second-grade class.[3] Before showing her class a film on farm animals, this teacher asked the children what they would like to see and know about animals that live on a farm. As the children responded, the teacher wrote their answers on the blackboard. After the film had been shown, the pupils and teacher discussed it and the children then enumerated what they had seen. Other follow-up activities included talking about the film, making pictures, and writing on the blackboard. Some children wrote stories suggested by the motion picture experience.

While new developments in the production and use of films in the reading program are to be expected, it is evident

* *Italics added.*

[3] Millman, Ellen, "Demonstration of How the Teaching Film Establishes Reading Readiness," *Proceedings of the Third Annual Visual Education Institution, July* 16-20, 1945. W. A. Wittich, Ed. Madison, 1945.

that much has already been accomplished, and it is now possible to outline a series of methods of film utilization which have already been tried successfully by imaginative teachers. Some such methods are suggested in the following paragraphs.

Oral Communication

Characteristically, the verbal behavior of children tends to center in group situations where a common activity is going on or a common experience is being shared. The film, as shared experience, may be used effectively to stimulate oral communication, and in this way contribute to the general language development of young readers.

The rich harvest of verbal stimulation becomes evident immediately following the film presentation. Young children who have just seen an interesting motion picture normally react with animated and spontaneous comments of all kinds. This vigor and spontaneity should be encouraged by the teacher and gradually channeled so that an organized discussion may develop. Individual responses may be expected to vary widely, of course, and to introduce personal impressions and experiences having to do with the film. As the discussion is continued and becomes organized around some of the central facts or concepts of the motion picture, words and names which may be new to individuals or to the entire group should be discussed and emphasized until they become familiar.

The film may also be used as an occasion for oral communication *prior* to its presentation. The successful use of films for any instructional purpose requires careful preparation of the class—and this would almost invariably involve some group discussion of the film in relation to the present interests of the pupils.

During the film presentation, itself, the language behavior of the class will usually be confined largely to listening. Certainly, the potentialities of the medium as a means of promoting good listening habits should not be overlooked. The

spoken commentary of the film also provides a means of promoting good language usage through the auditory experience. As a variant to the usual method, some teachers have found that the occasional projection of the film with the sound system turned off offers an effective way of encouraging spontaneous comment among pupils. This procedure is most effective when the film has already been shown at least once with sound.

Other oral language activities growing out of the film presentation may be developed in a variety of forms. Nonsense rhymes, dramatic play, and singing suggest a few of the many possibilities.

Films and Reading

Obviously, many of the oral language activities suggested above either involve some reading and writing or lead directly to the use of visual language symbols. Class discussion, prior to the film showing, for instance, might be expected to give rise to a series of questions which the teacher could list on the blackboard. In a class of beginning readers, single words pertaining to objects in the film could be listed and discussed.

Following the film presentation, the opportunities involving reading and writing can be expanded almost indefinitely within the limits of the continuing interest of the group. A simple and useful procedure followed by many teachers is to prepare a list of new words learned from the film. The list may then be used in preparing reading charts or other "homemade" reading materials. Captions may be prepared for drawings or posters based on the motion picture story. Group compositions, poems, and stories may be written, depending of course on the age level and abilities of the class. Verbal materials may be prepared for a play or for scene titles to be used in a pantomime. Also, simple informational material and stories connected with the subject of the film can be collected and used for reading. Teachers have found that the use of motion pictures creates many new interests and thus helps to

give a fresh impetus to reading. The advantage of the medium, in this respect, is that it offers an unusual degree of impact and variety of visual stimulation.

The foregoing suggestions represent only a few of the many ways in which the instructional film can be used to bring rich new content and stimulus to language development of children.

Films and Reading Skills

Some films have been produced and used for the purpose of controlling the development of specific reading skills. Motion pictures have been employed, for instance, as a mechanical device for increasing the span of reading fixations and controlling eye movements with respect to speed. W. F. Dearborn has described some experiments in which a full page of printed material is projected on the screen.[4] Span of fixations and speed of reading are thus controlled by a method of highlighting one phrase at a time. Other devices, such as the machine called the Metron-O-Scope,[5] have been developed to pace the reader. (Such devices, of course, are not used for beginning readers.) Positive results with respect to speed of reading have been reported. One criticism of some mechanical devices for controlling speed of reading is that they fail to make allowances for variations in rate and span of fixations, whereas good readers do make such variations as they adapt their reading to the material being read.

The use of films as a method of aiding word recognition is suggested by the common practice of using copious illustrations in readers. The joint use of words and pictures as a pedagogical method has a long and respectable history dating at least as far back as Comenius and the *Orbus Sensualium Pictus*. We know the child learns the words for things as his

[4] Dearborn, W. F., Anderson, I. H., and Brewster, J. R. "A New Method for Teaching Phrasing and for Increasing the Size of Reading Fixation," *Psychological Record*. Vol. I, 1938, 219-222.

[5] For one report on the use of this device, see A. E. Taylor, *Controlled Reading*, University of Chicago Press, 1937.

environment comes to include more and more to tell, hear, and at length, to read about. When reading begins, the pupil has already acquired a vocabulary which enables him to meet in some degree his simple needs of communication. Much of his early task of learning to read consists in learning to recognize the visual equivalents of previously learned spoken words. Pictures, including motion pictures, can be made to serve the obvious function of establishing connections between oral and visual symbols by means of images of their common referants.[6] The distinctive advantage of motion pictures, in this connection, is the time dimension of films which makes it possible to represent movements and processes as well as stationary or arrested objects. It must be observed, however, that the usual sound film does not carry superimposed titles, so that in many cases the teacher must introduce the appropriate written verbal symbols after the film presentation. That is to say that the values of most instructional films for word recognition are potential, and must be brought to realization through the teacher's efforts. Obviously, it would be possible to make films using superimposed (visual) verbal symbols as a method of promoting word recognition. Whether the possible loss of other learning values (including reading effects) through distraction would be justified is open to question.

The use of films as a method of controlling mechanically the development of certain reading habits, and also to promote word recognition through association of visual symbols and images, deserves further consideration. The possibilities should be fully investigated on an experimental basis. At the same time every effort should be made to develop further the broader functions of the film in the reading program, which have already been discussed.

[6] (Things referred to). The term "referant" is borrowed from Charles Morris, *Signs, Language and Behavior.* New York, Prentice Hall, 1946.

Unexplored Possibilities

While sufficient evidence has been received to indicate growing interest and gratifying results in the use of films in the reading program, it is evident that much experimental work needs to be done to define and widen the range of effective utilization of films in this area. Nothing is known, for instance, about using films for diagnostic and therapeutical purposes in connection with psychological reading difficulties, although the highly flexible characteristics of the film medium might well be adapted to such purposes. It also seems that the actual use of films in the reading program has been concentrated rather heavily in the early grades, whereas untried possibilities for their use with older readers remain to be developed and applied. Along with the general growth in the use of films in the schools, we may expect that creative teachers and film producers will continue to find more and better ways to exploit the resources of the medium.

CHAPTER VII

APPLICATIONS OF THE FILM IN SCIENCE

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Teachers of science throughout the curriculum, on the elementary, secondary, and college levels, have the common responsibility of acquainting their students with the material world in which they live, and of inculcating in them the scientific habit of mind. These two aims may be considered the fundamental objectives of science teaching.[1]

In practice these two objectives, clear-cut as they seem to be, are often approached by science teachers with widely different purposes which are achieved by a variety of methods. "Acquaintance with the world of our environment" may be interpreted by some as an exhaustive accumulation of facts concerning the material world about us. Such teachers might emphasize through oral drill by question-and-answer the information that seventeen platelets are found in the carapace of a certain species of turtle, or that Aldebaran is a star forty times the size of our Sun, and receding from us at the rate of thirty-four miles per second. Considerable pleasure is probably derived from these gems of knowledge, particularly by those who are successful in memorizing them, but they are of little immediate or potential value as such. In fact, educational research

[1] S. Ralph Powers, *et al. Part I, A Program for Teaching Science,* Thirty-First Yearbook of the National Society for the Study of Education. *Science in General Education,* Report of the Committee on the Function of Science in General Education, Commission on Secondary Curriculum, Progressive Education Association.

has indicated that these data are not what is actually retained longest as a result of learning experience.[2]

On the other hand, there are teachers who place their emphasis upon the personal generalizations of understandings derived from informal class discussions and study of such scientific facts—the scientific principles which their students are enabled to derive for themselves through their experiences in science. Such teachers realize that generalizations of this nature are retained for much longer periods of time than facts. Why this longer retention occurs may still be a debatable question. Perhaps it is because factual information remains in mind only so long as it is continually used, while generalizations, being subject to constant revisions and enrichment as our concepts continue to broaden and deepen with increasing maturity, are ever acquiring new significances through experiences freshly impressed upon our minds. Whatever the cause, the fact remains that the best results in science teaching are measurable in terms of the generalized knowledge of scientific facts and their relationships which the student has at his command.[3]

Thus, in contrast to those who teach for detailed items of information, these science teachers deem it of greatest importance that their students be capable of stating from experience that "A fire can be put out by merely cooling the fuel," "Water in nature is never absolutely pure in the chemical sense," "Although stars are actually moving rapidly, they are so far away that their changing positions may not be noticed for centuries," or that "Life exists at every level of the Earth's surface from the depths of the ocean to the mountain heights." These are scientific principles.

Such generalizations, arrived at by the student on the basis of his real and vicarious experiences in science, vary greatly in expression at different stages of development from the kinder-

[2] Ralph W. Tayler. "Permanence of Learning," *Journal of Higher Education* VI (April, 1933), 203-204; also "What High-School Pupils Forget," *Educational Research Bulletin*, Ohio State University, IX (November 19, 1930), 490-492.

[3] *Ibid.*, pp. 203-204.

garten to the graduate school. Nevertheless, they are essentially true statements of fact and relationship as conceived by each individual at his particular level of maturity. For example, a first-grade child might generalize his experiences and observations with the statement that "Animals get bigger as they get older." This may not be strictly true in the light of all the evidence known to the biologist on the college level, yet for the child it is a working concept of considerable practical value. It will certainly have functional importance for him when he undertakes to build a kennel in the backyard for his Great Dane puppy.

The same principle, revised and renewed to the level of understanding of the high school student might become "Growth of the organism through digestion and assimilation of food is a characteristic of all animal life." The college student could broaden his generalization to encompass considerations of plant life also, refining the final statement to allow for exceptions to the rule. So the process goes on as long as learning continues. Supporting facts and statistics may be forgotten, but the principle will remain to assist each individual in meeting the new problems of his environment which are forever arising.

Formulation of a scientific principle thus becomes a personal privilege for self-expression on the part of each student, since it is his individual understanding of the idea which is being stated. But for the benefit of teachers of science who must guide their students' experiences in both breadth and detail, lists of the most important principles in the various areas of science have been determined through research and published within recent years,[4] summing up the substance of what

[4] For elementary science: Martin L. Robertson. "The Selection of Science Principles Suitable as Goals of Instruction in Elementary Science," *Science Education,* XIX (February and April, 1935), 1-4, 65-70.
For physical sciences (physics, chemistry, geology, astronomy): Harold E. Wise. "A Determination of the Relative Importance of Principles of Physical Science for General Education," *Science Education,* XXV and XXVI (December, 1941 and January, 1942), 371-379, 8-12.
For biological sciences (biology, botany, zoology): W. Edgar Martin. "A Determination of the Principles of the Biological Sciences of Importance for General Education, II," *Science Education,* XXIX (April-May, 1945), 152-163.

may be considered the traditional subject matter of science. Reference to these lists can help a teacher in planning his instruction so that he may be able to effect in his classes a wide understanding of the scientific principles which will function in the everyday life of the student.

Many thoughtful people believe, however, that the most valuable contribution made to science by past generations of investigators is not so much the mass of knowledge which has been accumulated and generalized as it is the method of inquiry developed for problem solving and the attitudes of mind which are characteristic of scientific thinkers. These two aspects of science, scientific method and scientific attitudes, taken together constitute what is often referred to as the "scientific habit of mind." The first involves a method of thinking and doing, while the second describes certain attitudes of mind toward people and things which seem to characterize those men, the scientists, who habitually employ the scientific method in their daily work.

The scientific habit of mind is greatly admired and valued today.[5] John Dewey, dean of American educational philosophers, recently wrote:[6]

> "One of the only two articles that remain in my creed of life is that the future of our civilization depends upon the widening spread and deepening hold of the scientific habit of mind; and that the problem of problems in our education is therefore to discover how to mature and make effective this scientific habit."

Science teachers almost universally set for themselves the teaching of the scientific method as one of the objectives of instruction for the year. That many of them fail to accomplish their goal may not be entirely their own fault. The real cause for

[5] See James Bryant Conant's *On Understanding Science* (Yale University Press, 1947).

[6] John Dewey. "Science and Democracy," *Scientific Monthly*, LII, (January, 1941), 55. (An excerpt from *The Scientific Method and Study of Processes*).

their shortcomings may lie not so much in the lack of good intentions and effort as in the lack of sufficiently improved instructional materials for presenting this important aspect of science.

These terms then identify the major objectives of science teaching—scientific principles, scientific method, and scientific attitudes. The first requires a particular emphasis upon the traditional subject matter of science; the second and third involve the human factors of science—the personality and methods of the scientist himself.

Both of these aspects of the field of science fall peculiarly within the province of the motion picture for depiction, since "the real thing" is so often not at hand for demonstration. Science is predominantly concerned with the play of natural forces, the interrelationships of objects in motion, the activities of living things, and other phenomena involving behavior and interplay. The motion picture has proved to be unquestionably superior for depicting such concepts in science. It is urged that the teacher keep in mind the following seven unique functions of a science film as a basis for judging its quality as a teaching aid:

A SCIENCE FILM SHOULD BE USED TO DEPICT—

1. METHODS OR PROCESSES not directly demonstrable—of such a nature that a special form of pictorial demonstration is necessary in order to instruct the students in the *method* by which men perform processes involving human manipulations and activities which for complete demonstration under ordinary circumstances would
   (a) Extend over too long a period of time for classroom purposes.
   Examples: Methods of breeding hybrid corn.
   Methods of preparing spotted-fever vaccine.
   (b) Involve a complexity of intermediate steps or coordinated acts, making special treatment through the film necessary in order to show the interrelationships of the various parts to the whole process.

Examples: Mass production methods in meat-packing.
Method of recovering and preserving an archeological or paleontological specimen.
Methods of mining coal.

(c) Be impossible because of the student's confinement in time and space.

Examples: Methods of fighting a forest fire.
Method of tapping a rubber tree in the Amazon Forest.

2. ACTION OBSERVABLE ONLY VICARIOUSLY ("Bringing the world into the classroom")—providing such experiences as contribute to the student's awareness or understanding of the scientific subject matter under consideration, but which would be unavailable, vicariously or otherwise, except through the film because of

(a) The student's confinement in time and space.

Examples: Behavior of beavers in the wild state.
Origin of icebergs at the end of a sea-borne glacier.

(b) The limitations of the ordinary school's demonstration facilities.

Examples: Natural phenomena shown by demonstrations involving high-vacuum equipment.
Responses of living visceral organs to various stimuli.

3. OBSERVABLE ACTION SIMPLIFIED THROUGH ANIMATION—so as to eliminate intervening or irrelevant details where several interrelated processes or mechanisms are operating at the same time.

Examples: Operation of individual parts of a gasoline engine.
The path of a single organism, such as a gnat, moving rapidly among others of its kind.

4. UNOBSERVABLE ACTION DEPICTED THROUGH ANIMATION—a progressive series of drawings so projected in relation to each other that motion is simulated.

Examples: Sound wave phenomena.
Heart action, showing the timing of the valves and flow of the blood.

5. SLOW-MOTION—depicting action which is
   (a) Unobservable because of the extreme rapidity of the subject's motion.
      Examples: Movements of the feathers of a bird in horizontal forward flight.
      Effect of the impact of a racket upon the shape of a tennis ball.
   (b) Readily observable but moving too swiftly to permit the observer to gain a clear understanding of the nature of the motion.
      Examples: Muscular and skeletal action of a racing greyhound.
      The dive of a kingfisher into water.
6. TIME-LAPSE PHOTOGRAPHY—depicting action which is
   (a) Unobservable because of the slowness and/or remoteness of the moving object.
      Examples: Diffusion of a gas throughout another gas.
      Movement of Jupiter's satellites during an eight-hour period.
   (b) Readily observable but moving too slowly to permit the observer to gain a clear understanding of the nature of the motion.
      Examples: Movements accompanying the opening of a flower.
      Movements among changing cloud shapes.
7. SIMULATION OF REALITY THROUGH RECORDED SOUND OR SOUND-EFFECTS with the film's visual record of the motion in a natural phenomenon, but only when the sound assists in reifying the aspect of science which is the theme of the film.
   Examples: Roar and rumble of an active volcano.
   Songs and cries of birds.
   The note of a tuning fork.

In addition to these unique functions, there are three specialized functions which may be performed on occasion by other means than by films, but to which the film contributes uniquely because of the technical versatility of that medium. These are:

1. PHOTOMICROGRAPHY—depicting action otherwise unobserv-

able except through use of individual microscopes or micro-projection.

Example: Brownian movements.
Activities of microörganisms.

2. MINIATURE PHOTOGRAPHY—depicting action otherwise unobservable except through use of moving scale models or other miniature devices.

Examples: Course of erosion of a mountain range into a peneplain.
Action of lightning striking a power line.

3. THE HUMAN ELEMENTS OF SCIENCE depicted through the dramatic medium of the film, providing demonstrations of scientific method and scientific attitudes which would be unobservable otherwise except through various sorts of dramatizations.

The film demonstrates how a scientist attacks and solves his problem, experimenting, studying results, and drawing conclusions. His use of the scientific method and his possession of the scientific attitudes are revealed by *pictorial* means, and the depiction is accompanied in the narration or titles by direct verbal reference to method or attitudes.

Examples: Use of the scientific method.
Scientific attitudes of scientists at work.
Scientific attitudes and habits of mind among laymen.

It is evident that all of these unique functions and the first two of the specialized functions of the film are especially well adapted for presenting the factual subject matter of science, both by bringing the world into the classroom and by depicting phenomena which under ordinary circumstances are entirely unobservable. The film thereby serves to bring the abstract into seemingly concrete form, a great boon to children who are not quick to grasp concepts on the basis of words alone. Science subject matter becomes more real before their eyes, and abstract word-symbols begin to be associated with more or less tangible referents. For this reason, the film can dispense information and develop concepts in science with a high degree of speed and accuracy, and should be used religiously for these purposes.

One might expect, because of this adaptability, that the best films in science today would be admirably fitted for teaching the scientific principles, but all too frequently this does not prove to be the case. As was indicated earlier, the scientific principle is in effect a personal creation for each individual student. To be most significant, therefore, it should be the product of that individual's experiences insofar as possible, an expression of what he has discovered through his studies and the events of his everyday living—not merely a ready-made sentence in abstruse and technical words, stored away without real understanding as a memory gem for later recitation. In this process the science film should be used to supply the background information; the student should then be given the opportunity to create or to recreate for himself the principle which he seeks. However, this step in the learning process is seldom permitted by films as they are now produced.

Even the best science films provide little real opportunity for the students to generalize upon the facts presented. In nearly every case this is done for him—with a great deal of self-satisfaction presumedly—by the narrator of the film. The situation is somewhat analagous to the one in which a riddle is propounded and then its answer revealed at once because the teller could not restrain himself sufficiently to give the satisfaction of its solution to his audience. Probably many scientific principles are actually being taught somewhat superficially through films by this method. No one knows how many. However, it is certain that the film's potentialities for making science instruction psychologically natural and pedagogically sound have never yet been fully realized, although film producers are slowly awakening to the possibilities of the medium for this purpose.

In the past, the prime objective of those who have been producing instructional films in science seems to have been, quite simply, *to dispense information.* The narrator has had so much which must be told, and only ten minutes in which to tell

it. As an expedient in the interests of brevity, he has attempted to discuss broad fields of subject matter quite comprehensively by cramming large amounts of generalized information into this short space of time. Inevitably, but accidentally, he arrived thus at the statement of certain scientific principles without really aiming to do so perhaps, quite unaware that at the same time he has usurped the student's prerogative when he does this.

As a result of such thoughtless procedure, a great deal of energy is being expended by teacher groups[7] in an effort to devise ingenious ways of securing *pupil participation* in film lessons. Some of these efforts have become as thoroughly artificial as mere question-and-answer quizzes over the minor details of the film's content. When the elements which will assure pupil response in a learning situation are not incorporated in the film at the time it is produced, it becomes necessary that the teacher do his best to secure the desired responses by whatever other means he can.

It is submitted here, however, that pupil participation can best be assured at the time the film is produced, simply by so designing the film content and narration that a preconceived audience response is necessitated by the film's approach to the subject. One obvious way of doing this requires only that the producer of the film have sufficient insight into what he is doing to refrain from generalizing at every opportunity, leaving that important step to the student—the person to whom it rightfully belongs. Heretofore, producers have not seemed to be made of such stern stuff. They have permitted their narrators to steal the show consistently by blurting out ready-made generalizations while the students sit wordlessly staring at the screen. They have seemed to have a common conviction that a science film must be strictly a "telling" film, in spite of the fact that the classroom lecture went out of good educational practice at least two generations ago.

[7] Bruce Allyn Findlay. *Participation, the Last Word in Films*, School Publication No. 384 (1942); also *Audio-Visual Tools That Teach for Keeps*, School Publication No. 395, pp. 17-44. Los Angeles City Schools.

Classroom teachers are now asking why students are not given a chance to draw their own conclusions from the scientific evidence provided in films. Why are real problem situations not presented through the medium of the film to provide challenging questions upon which a class might do some original research in science after the film has ended? Why are more questions not asked and *left unanswered?* In a word, why must the role of passivity be forced upon the class by the very nature of the film produced, degenerating the whole experience provided just that much nearer the level of effortless entertainment?

There are some evidences that the desirable qualities suggested above are creeping into the more recent films. In the elementary film, *The Seashore* (Arthur Barr Productions), for instance, two questions are actually asked of the class by the narrator, who then shows admirable self-restraint by not answering them at once himself. To be sure, these are simple questions of recall—"How many (sea animals) do you see in this picture?" and "Can you name the five shown here?"—but a short time is allowed in the sound track with the picture still on the screen for the students to study, during which the narrator is silent. Such an event is so rare in modern educational films that it is worthy of remark and commendation whenever it occurs.

Film producers argue that it is expensive to "waste" film footage by leaving gaps in the sound track. This is a specious argument, however, since what one would be buying in that case would be silence! Those of us who have actually taught a class at some time or other know that the silent moment or two which is filled with mental activity on the parts of the students is always well worth while, even though several feet of expensive film passing through a projector meanwhile must be considered in the costs.

Obviously direct questions of the sort mentioned above need not be used exclusively. Implied questions and un-

answered problems in the film are apt to be much more profoundly stirring to a science class than direct questions, since they leave the issue unresolved at the end of the film when time is available for discussion and thought. A suggestion that the class draw its own conclusions to the evidence or scientific data drawn from an experiment reported by the film would be even more valuable. Of course, dropping such a suggestion and then leaving the audience to its own devices requires a kind of moral courage and a faith in the intellectual integrity of the students that film producers have not yet been able to muster.

Very few films are now extant which are fitted to teach the scientific habit of mind. The scientist in action and the manner in which his mind works are subjects seldom depicted on the screen. True, the bearded scientist in a white jacket peering tensely at test tubes in the midst of a bewildering forest of miscellaneous glassware is dramatized in Hollywood fashion from time to time, but these glimpses never seem to serve any definite pedagogical end. The Van Dyke beard, the white laboratory jacket, the excitement, and similar stock properties are the principle factors emphasized; almost never are the scientist's methods of problem solving intelligently demonstrated.

Three exceptions to this general observation have been noted, however, and these exceptions open the door of opportunity to the science teacher who wishes to teach the elements of scientific method through motion pictures. The first was brought into the realm of educational films more or less by the back door. As one of Human Relations Series films of the Progressive Education Association, the *Story of Louis Pasteur* (*Anthrax Sequence*) (Teaching Films Custodians) was edited from a feature-length theatrical production by Metro-Goldwyn-Mayer in which Paul Muni starred in the role of Pasteur. This film was not produced originally as a teaching film, although its value for that purpose became of the highest

order through the expert cutting and editing of those who prepared the Human Relations Series.

The second example is a silent Eastman Classroom Film, produced in 1938 and entitled *The Historical Introduction to the Study of Chemistry,* (Encyclopedia Britannica Films) and was prepared for the express purpose, as its Teacher's Guide states, of "illustrating what is meant by the scientific method." The film gives a detailed account of the famous experiments of Priestley and Lavoisier, by means of which oxygen was discovered and the nature of burning explained, but it does not discuss or identify any of the elements of scientific method involved. Notwithstanding this, high school and junior college students who are already familiar with the elements can analyze Lavoisier's methods with considerable benefit. For this reason, whether by design or by accident, the film is admirably fitted for use in teaching the method. Most of the thinking is necessarily left for the class to do—and any class learns by doing. Fortunately, this is a silent film, which permits the teacher to comment in various ways as the needs of his class would indicate and eliminates the intellectual hazard and nuisance factor of the narrator who cannot keep still while people think.

The third film, only recently released by Coronet Instructional Films, is entitled *What is Science?* Its chief value lies not in its exemplifying of the various branches of science, but in its excellent depiction of the method by which two children, Tom and Joan, attack a problem scientifically. Following their determining of where the condensed moisture on a pitcher of cold lemonade comes from, the method used was analyzed into its five elements—curiosity, observation, hypothesis, testing of hypothesis, and conclusion. This film is to be recommended highly as a means of introducing the elements of scientific method to junior high school classes. The barest fundamentals of the method are outlined, but the terminology introduced is accurate and of the accepted form. Although a control was actually introduced at one point and a check experiment at

another, these two elements were not emphasized, and it would be necessary for the teacher to resort to other means than this film to make these concepts clear.

The simplified list of the elements of scientific method[8] which follows might be used to amplify upon the beginnings laid in the aforementioned film, *What is Science?*

The Scientific Method of Solving a Problem

1. *Notice something which makes you think of a question that you would like to be able to answer, and decide to try to find the answer to it.*
2. ***Decide exactly what the question or problem, is, and state it clearly in words.***

   In studying the problem, use everything you know, not only what you have learned from your own experiences, but also what you have learned from other people and from books.

4. *Make as many possible answers to the problem as you can think of.*

   Scientists call this step, "Making hypotheses."

5. *Select from these possible answers or hypotheses the one you think is most likely to be the right one.*
6. *Make up and carefully plan an experiment to find out whether the answer you selected is the right one.*

   Plan to do an experiment in two parts whenever possible. These two parts of the experiment are exactly alike in every way except one, and that is called the *experimental factor.* The part of the experiment that does not have the experimental factor in it is called the *control experiment.* The part which includes the experimental factor may be called the ***true experiment.***

   Remember that the experimental factor must be the *only* difference between the true and the control experiments. Then any differences in the results of the two experiments will be due to the experimental factor.

[8] Oreon Keeslar. "The Elements of Scientific Method," *Science Education,* XXIX (December, 1945), 273-278. Also in an unpublished doctoral dissertation, University of Michigan, Ann Arbor, 1945. Both of these sources contain a more technical version of the list of elements, suitable for use on the college or adult level.

7. *Carry out the experiment with great care according to the plan.*

   Make as careful observations as you can. Whenever your answer must be exact, make careful measurements of the results if you can.

8. *Repeat the experiment to see whether you get the same results the second time. This second experiment is called a CHECK EXPERIMENT.*

   Some times, instead of repeating the same experiment, an entirely new experiment using the same experimental factor is carried out as a check on the results.

9. *Draw your conclusion.*

   Your conclusion should be stated so that it indicates whatever your experiments show, and *only* what they show.

10. *Use the facts you have thus learned when you face a new problem that is similar or related to this one.*

    It is by using this method over and over again that our knowledge of the world about us increases; and the more we know about the world around us, the better we are able to live in it and to control it.

For the advanced junior high and high school students who have already been introduced to the elements of scientific method and the scientific attitudes, the clearest-cut and most dramatic demonstration of the scientific habit of mind is to be found in the anthrax sequence of *The Story of Louis Pasteur.* One of this film's immediate values lies in its depiction of scientific as well as unscientific attitudes on the part of Pasteur, his assistants, and those who were pitted against him in the famous Pasteur-Rossignol Experiment, although these attitudes are not pointed out or identified.[9] However, the chief value of this film for science teaching is provided in the vivid dramatization of the scientific trial of Pasteur's anthrax vaccine which took place at Pouilly-le-Fort, France, in May and June, 1881.

The Anthrax Sequence has been used successfully by the writer as an aid in teaching the elements of scientific method to high school students, but only when the subject has been

9 A list of the scientific attitudes may be found in *Everyday Science,* by Otis W. Caldwell and Francis D. Curtis (Ginn and Company), p. 610.

previously introduced and explained through some other means, such as a classroom discussion with historical anecdotes about scientists at work, or a specially prepared lantern-slide presentation. Before showing the film to test the students' understanding of the method, a function for which it is admirably suited, it was necessary to apprize the students of two discrepancies in the film version of the experiment, at which its story departs from the essential facts of the event:

(1) The duration of the experiment has been greatly foreshortened in the film version in order to heighten its dramatic effect. Instead of injecting the vaccine shortly before the infection of the sheep with anthrax as implied in the film, Pasteur actually vaccinated the sheep of the experimental group once on May 2nd, and again on May 17th. Rossignol did not then arrive to infect both groups until May 31st. Two days later, June 2nd, the crowd was admitted to see the results.

(2) A few cows and pigs were included in the test as a check experiment, a fact completely neglected in the film version.

Following the final showing of the film, for study purposes a short multiple-choice test based on the Pasteur-Rossignol experiment may be administered, placing the burden for identifying the various elements of scientific method squarely upon the student:

Directions: In each of the following items you will find the beginning of a statement concerning the Anthrax Experiment at Pouilly-le-Fort, France, in May and June, 1881. In the blank before the items, write the number of the ending which would make the statement true.

__3__ 1. In the public trial of Pasteur's anthrax vaccine, the experimental factor which was introduced was

(1) The blood of the dead sheep.
(2) The grouping of 25 vaccinated sheep together.
(3) The vaccine.

(4) The grouping of 25 unvaccinated sheep together.
(5) The death of the unvaccinated sheep.

1 2. In the same trial, the control used was
(1) The group of 25 unvaccinated sheep.
(2) The group of 25 vaccinated sheep.
(3) The anthrax vaccine.
(4) The cows included in the test.
(5) The injecting of the dead sheep's blood.

4 3. The including of the cows in the trial served as
(1) A control
(2) An experimental factor.
(3) An assumption.
(4) A check experiment.
(5) A poorly defined problem.

5 4. The hypothesis being tested in this case was
(1) That Pasteur was a liar.
(2) The Rossignol knew more about anthrax than Pasteur did.
(3) That the blood of a sheep which had died of anthrax would give the disease to another sheep.
(4) That anthrax was caused by germs.
(5) That the vaccine would protect sheep and cattle from anthrax.

5 5. The public trial of Pasteur's anthrax vaccine was
(1) Not scientific, because the two men should not have predicted how it would turn out.
(2) Not scientific, because it did not give the sheep a chance to live.
(3) Not important, because only about two dozen sheep and two or three cows died during the experiment.
(4) A mistake, because a scientist should not have to appear in public to prove that what he says is true.
(5) A good scientific experiment in the way it was planned and carried out.

2 6. The conclusion which could be drawn from this experiment was
(1) That Pasteur was right all the time.
(2) That sheep could be protected from anthrax by Pasteur's vaccine.
(3) That Pasteur knew more about anthrax than Rossignol did.

(4) That anthrax is caused by germs.
(5) That one should never doubt the word of a good scientist.

In the foregoing pages the instructional film in science has been appraised rather critically in terms of the major objectives of science teaching and the unique and specialized functions which the film is capable of performing in science. The fact has been demonstrated that existing films in this field are not entirely satisfactory as teaching aids, since they tend, particulary through their narration, to forestall the science teacher in his efforts to be a good teacher—that is, to lead his students in well-motivated discussions, culminating in the summarization of experiences by means of generalizations to indicate the scope and accuracy of each individual's understanding of science. They also fail to provide adequate material in dramatic form with which to inculcate in students a full appreciation of the scientific habit of mind.

The failure of science films in general to do these things for teachers, it has been pointed out, seems to be due largely to a basic ignorance or indifference on the part of film producers as to how and what a good teacher in science teaches. As a consequence, the available resources in this field are limited to a large selection of films which are not well integrated with the curriculum as it is defined in the major objectives of science teaching, and which by their very nature defeat the first law of good pedagogy—"We learn by doing." The pedagogical point of view commonly employed in these films is half a century behind the times in its development, for it still smacks of the era of the Chautauqua lecturer who expounded his wisdom while his audience sat supinely and absorbed what they could.

By such criticism it is not meant to be implied, of course, that the film materials now existing in the field of science are worthless. They are indeed valuable, even when they must be used for purposes for which they are not designed. Someone

has said that a bull fiddle can be made to serve as a boat if the need is great enough. It is necessary, however, that the films which are at hand be used intelligently. Many of them can and are being adapted by teachers to meet the instructional needs mentioned above, and this practice must be continued. It is most heartening to note that a trickle of new-type films is now coming on the market, thanks to the earnest efforts of some of the newer producers in the field who are striving to make better science films. To these we look with great hope as the ones who will bring instructional films in science into their proper estate as the best of teaching tools.

CHAPTER VIII

APPLICATIONS OF THE FILM IN MATHEMATICS

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A survey of the literature in the field indicates that much more has been written and many more films have been produced which deal with the teaching of mathematics on the secondary level than on the elementary level. The list of films given at the close of this chapter will substantiate this fact. Accordingly, the major part of this chapter will be devoted to a discussion of the contributions which films can make to the attainment of certain goals in arithmetic and to the presentation of illustrations of films which might well be produced.

Applications of the Film in Arithmetic

During the last decade there has come to be general acceptance of the meaning theory of the teaching of arithmetic as contrasted with the mechanistic or drill theory. To determine the contributions which films can make to the teaching and learning of arithmetic, the outcomes of a program based on the meaning theory may well be examined. Dr. Brownell has formulated the following list of *outcomes* which will provide guidance in considering the points in the arithmetic program where films may be used effectively:[1]

1. Computational skill:
   Facility and accuracy in operations with whole numbers, common fractions, decimals, and per cents. (This group of outcomes

[1] ***Arithmetic in General Education***, pp. 231-232. Sixteenth Yearbook of the National Council of Teachers of Mathematics. New York: Teachers College, Columbia University, 1941.

is here separated from the second and third groups which follow because it can be isolated for measurement. In this separation much is lost, for computation without understanding *when* as well as *how* to compute is a rather empty skill. Actually computation is important only as it contributes to social ends).

2. Mathematical Understandings:
   (a) Meaningful conceptions of quantity, of the number system, of whole numbers, of common fractions, of decimals, of per cents, of measures etc.
   (b) A meaningful vocabulary of the useful technical terms of arithmetic which designate quantitative ideas and the relationships between them.
   (c) Grasp of important arithmetical generalizations.
   (d) Understanding of the meanings and mathematical functions of the fundamental operations.
   (e) Understanding of the meanings of measures and of measurement as a process.
   (f) Understanding of important arithmetical relationships, such as those which function in reasonably sound estimations and approximations, in accurate checking, and in ingenious and resourceful solutions.
   (g) Some understanding of the rational principles which govern number relations and computational procedures.

3. Sensitiveness to number in social situations and the habit of using number effectively in such situations:
   (a) Vocabulary of selected quantitative terms of common usage (such as kilowatt hour, miles per hour, decrease and increase, and terms important in insurance, investments, business practices and other economic applications of number).
   (c) Ability to use and interpret graphs, simple statistics, and tabular presentations of quantitative data (as in study in school and in practical acivities outside of school).
   (d) Awareness of the usefulness of quantity and number in dealing with many aspects of life. Here belongs some understanding of social institutions in which the quantitative aspect is prominent, as well as some understanding of the important contribution of number in their evolution.
   (e) Tendency to sense the quantitative as part of normal experience, including vicarious experience, as in reading, in observation, and in projected activity and imaginative thinking.

(f) Ability to make (and the habit of making) sound judgments with respect to practical quantitative problems.

(g) Disposition to extend one's sensitiveness to the quantitative as this occurs socially and to improve and exend one's ability to deal effectively with the quantitative when so encountered or discovered.

It is with the outcomes listed under the heading "Mathematical Understandings" that we shall be chiefly concerned in this discussion. During the period when the "drill theory" influenced arithmetic textbooks and methods of teaching, these outcomes were entirely neglected. Even at the present time we find many statements similar to the following by Douglass and Spitzer in the chapter, "The Importance of Teaching for Understanding," in the Forthy-Fifth Yearbook of the National Society for the Study of Education:[2]

> "Yet, in spite of their demonstrable values, understandings have been neglected in the school, and they still are too often neglected, in favor of other learning outcomes, such as verbalism, barren factual information, and mechanical skills. In the foregoing discussion, attention is given to several factors which have produced this relative neglect, among them: an inadequate psychology of learning, over-reliance on textbooks, the tendency to teach by telling, the tremendous expansion of the curriculum, etc."

In many classrooms the textbook is the only type of material used in teaching arithmetic. Pupils often blindly imitate step-by-step procedures without understanding the numbers they are using and without thinking of the reasons for the steps they are imitating. When mathematical understandings are looked upon as important outcomes, the teaching process becomes one of proceeding from concrete meaningful experiences by a systematically planned series of steps to the use of abstractions and symbols. Then opportunities are provided for a return to

[2] *The Measurment of Understanding*, p. 25. Forty-Fifth Yearbook, Part I, of the Nat'l Society for the Study of Educ. Univ. of Chicago Press, Chicago, 1946.

the concrete and the use of the newly acquired symbols in a variety of social situations.

When purposeful experiences constitute the point of departure in teaching understandings, the classroom is converted into an arithmetic laboratory. It is equipped with objective materials which pupils may manipulate for themselves and with materials which may be used in demonstrations and dramatizations at the front of the room. It contains models, charts, posters, and a variety of measuring instruments. The arithmetic laboratory of tomorrow will have such additional equipment as slides, slidefilms, and movie films, and the facilities for projecting them.

Arithmetic, taught in such an environment by a teacher who possesses an "adequate psychology of learning" and a thorough grasp of the subject matter, includes the carrying on of a wide variety of activities. Pupils measure, construct, draw, experiment, dramatize, as well as compute. They should also be enabled to utilize slides, slidefilms, and movie films to clarify, extend, and enrich their quantitative experiences.

In the opinion of the writer, sound films constructed in accordance with the meaning theory of the teaching of arithmetic can make a significant contribution to the teaching of mathematical understandings for the following reasons:

1. A film can dramatize a series of activities so vividly and effectively that the pupil feels that he is participating in the activities.
2. Although a film provides only vicarious experiences, these experiences can be sequentially organized to take the pupil gradually from concrete meaningful situations to the abstract level in which ideas, relationships and generalizations are abstracted and symbolized. The procedure for teaching division described below illustrates this point.
3. A film can stimulate pupils to try for themselves the experiments, the activities, and the procedures pictured. Thus there will result a greater degree of understanding and

insight. The procedure described for developing the meaning of π illustrates this point.

4. A film can often impress upon the teacher the need for providing pupils with many and varied basic experiences. It can suggest to the teacher techniques for utilizing objective materials, dramatization, and demonstrations in the classroom.
5. A film can clarify and extend the mathematical understandings of many teachers. Therefore films might well be used extensively for initial and for in-service training of teachers of mathematics.

At the present time very few films of any type are available in the field of arithmetic. Those that are available or are in production are listed at the end of the chapter. Illustrations of the kinds of activities which might well be filmed to help pupils to gain the understandings listed by Dr. Brownell are given below.

Teaching the Concept of Division in Grade 3

The plan which is described below illustrates the teaching of the nature and function of a process (Outcome 2d). It presupposes direct experience as a starting point with a film to extend and clarify the concept of division. However, for the classrooms in which materials are not available, a film which reproduced the entire sequence of activities would assist pupils in gaining an understanding of the process and its symbolism.

Social situation: The teacher and the children have been discussing spring gardens. Some of the children have been buying packages of seeds at stores. Other children have been bringing money to school where seeds may be bought for 3¢ a package through a special offer by a seed company. The teacher decides to use this socially significant situation as a basis for introducing the concept of division.

In her plan the teacher provides for four stages of development: the concrete stage, semi-concrete, pictorial representa-

tion, and last, the symbol stage. After the idea of what the process does to numbers has been abstracted and after the meaning of the new symbolism has been developed, provision is made for use of the new symbolism in a variety of social situations.

Concrete stage: The teacher realizes that direct experience with present-to-sense materials is the starting point in building new concepts on this level so she provides a quantity of play pennies and packages of seeds which pupils may buy.

Tom has a dime and a nickel to buy seeds but he does not know how many packages of seeds he can buy. The teacher and the class discuss the fact that a dime and a nickel may be exchanged for 15 pennies. To help Tom determine the number of packages of seeds he can buy, all the children lay out 15 play pennies on their desks. The teacher allows considerable time for pupils to devise their own methods of helping Tom.

The pupils have studied multiplication and have had some experience in combining equal groups. A few pupils recall that five 3's combine to make 15. They take the next step independently and now "think" that 15 can be divided into five 3's, and consequently are ready to tell Tom that he can buy 5 packages of seeds. These children whisper their discovery to the teacher. She asks that they wait to help Tom, and suggests that they try out their discovery with other numbers. However, the teacher asks these pupils to keep their discovery to themselves and to prove with their pennies that they are correct.

Other pupils quickly arrange their pennies in piles of three, count the threes, and are ready to help Tom. Other pupils need a hint to the effect that they first take away enough pennies to buy one package, then enough to buy another package, etc. Some pupils need to have a package of seeds placed beside each group of 3 pennies.

When Tom's question has been answered, other groups of pennies (12, 18, 9, 21) are laid out, then divided into threes

(by successive subtractions) to help answer questions for pupils who have these amounts of money to spend.

After each group of pennies has been spent for seeds, pupils are encouraged to describe in their own words what they did. Their descriptions vary, but the teacher helps them to include one basic idea in each description; namely, the idea that a larger group of pennies was separated into smaller groups of three each—each group to buy one package of seeds.

Semi-concrete stage: For this stage materials which can be manipulated are provided but they do not serve any socially significant purpose. Attention is focused upon the seperation of larger groups into equal smaller groups by the method of successive subtraction of a group of a designated size. Verbal description of the activities performed emphasizes subtracting one three, a second three, a third three, etc. The activity takes place at the front of the room with children participating one at a time. The teacher guides their thinking toward the generalization she wishes them to make.

The teacher has a pocket chart at the front of the room and a supply of cardboard tickets of different colors. The teacher has placed in the pocket chart a row of 12 red tickets, evenly spaced, a row of 15 blue tickets, and a row of 24 white tickets.

All the pupils count the red tickets. Jim is chosen to group the 12 red tickets into threes. He does so by systematically taking away or separating one three after the other from the given group. When Jim finishes, he or some other pupil describes the activity thus "I had a group of 12 red tickets. I made as many threes as I could. 12 tickets will make four 3's.

In a similar way other groups of tickets are separated into equal groups and the activity described.

Picture stage: For this stage the materials to be grouped are pictured. Since they cannot be moved,

grouping must be indicated by drawing boxes or lines. The pictures may be placed on the board or pupils may be supplied with mimeographed materials.

As each box is made to enclose a group of 3 dots, this is explained as subtracting "a three". From 15 dots a three can be subtracted five times.

Symbol stage: In this stage symbols with which pupils are familiar are used to represent the successive subtractions of equal groups; then the new symbolism of division is presented as a way of indicating the result of the successive subtractions which have taken place. The explanation may be somewhat as follows:

We can show with numbers what we did each time we took away 3 dots and put them in a box. First we had 15 dots. We took away 3. There were 12 dots left. We took 3 away from 12; this left 9 dots; we took 3 away from 9 dots; this left 6; again we took 3 away from 6; this left 3; then we took away the last 3. In the subtractions we've made, we see that we subtracted 3 five times, so we know we separated 15 into five 3's.

$$\begin{array}{r} 15 - 3 = 12 \\ 12 - 3 = 9 \\ 9 - 3 = 6 \\ 6 - 3 = 3 \\ 3 - 3 = 0 \end{array}$$

We have another way besides the subtraction way to show how many 3's there are in 15. We call the other way the division way. We write 15 to mean the 15 dots we had in the big group. We place a frame part way around 15 like this: $\overline{|\ 15.}$ This frame tells us to divide the 15 up into smaller groups. When we write a 3 outside the frame this way, $3\overline{|\ 15}$, it tells us to divide the 15 up into groups of 3 each. When we find out by subtracting, by drawing boxes, or by dividing things that there are five 3's in 15, we show this by writing 5 above the frame this way: $3\overline{|\ \overset{5}{15}}$.

The teacher may now return to the division activities

dramatized with tickets and with play pennies. Each situation should be represented by the use of the new symbolism.

It should be pointed out that the aim of the procedure described above was not to teach any specific group of number relations, such as $3\overline{)15}$ $3\overline{)12}$ $4\overline{)20}$, etc. Rather, the aim was to teach the nature of division as the process which requires the separation of a larger group into equal smaller groups of a given size, and to introduce the arrangement of numbers and a frame which may be used to express this division idea. The plan aimed also to relate division to subtraction as the mathematical way of finding out how many of the equal smaller groups could be formed from the larger group.

Pupils need experiences in utilizing the division idea and its symbolism in a variety of situations. A film which pictured the following activities might well be shown after the children had participated in the buying of seeds:

Social situation: The pupils have planted tomato seeds in the seed box in their room, and a total of 24 plants of one kind have come up and are ready for transplanting. Pupils wish to transplant them into flower pots with 4 plants in each pot.

Concrete stage: Pupils take groups of 4 plants out of the seed box and plant them in pots until all are planted. The successive subtraction of groups of four is emphasized. Since a group of four could be taken away six times, there were enough to fill 6 pots.

Semi-concrete stage: 24 lines appear to stand for 24 plants. The narrator asks, "How many 4's in 24?" The lines group themselves in 4's by the successive subtraction of 4. Each time a group of 4 separates a subtraction example appears on the screen.

Symbolism of division: The 24 lines appear in a continuous row, then they disappear and the number 24 appears. About the 24 the frame appears and the 4 outside the frame appears. For a moment the 24 lines appear again and group themselves into fours. The number six appears above the frame

and the six groups disappear. As the number 6 appears, the 6 flower pots filled may also appear.

Other grouping experiences which might be pictured with the accompanying symbolism include these: children group themselves to march in 4's; a large bunch of flowers is made into bouquets with the same number of flowers in each bouquet.

The illustrations discussed thusfar relate to only one division idea— the *measurement* idea. The *partition* or sharing idea of division, in which we find the number of each of the equal parts of a group or of a number, requires basic experiences. A film might well supplement basic experience.

Social situation: Sharing marbles.

Concrete stage: 12 marbles are to be shared equally by 3 boys. One of the boys divides the marbles by dealing them out—"one for you, one for you, one for me," etc., until the marbles are all divided. Emphasis is placed upon the fact that there are 3 boys, so each boy receives 1/3 of the marbles.

Semi-concrete stage: Picture a row of 12 circles and 3 trays. Three circles separate themselves from the group and one rolls on to each of the 3 trays. This happens four times until all the circles are on the trays.

The circles on one tray vibrate and the narrator says, "One of the 3 equal parts of 12." Circles on another tray vibrate and the narrator continues, "Another of the 3 equal parts of 12," etc.

The circles disappear from each tray and in their place the number 4 appears on each tray.

Symbol stage: The 12 circles appear in a row and the number 12 appears at the right of the screen. The frame appears about the 12 and the number 3 outside the frame. As the number 3 appears, the circles roll onto the 3 trays again. The 4 circles disappear from the trays and the number 4 appears on each tray. At the same time the number 4 appears

$$3\overline{)12}\quad 4$$

above the frame. Narrator says, "When we divide 12 into 3 equal parts, one of the equal parts is 4."

The 3 trays each containing 4 circles may reappear again. Under each one appears the designation $1/3$ of $12 = 4$. Narrator says, "When we make 3 equal parts, one part is $1/3$, so we can say that $1/3$ of $12 = 4$.

Picturing the two division ideas as suggested above does not exhaust the possibilities of further extending pupils' concept of division. Final remainders require additional experiences. Films can aid greatly in depicting situations in which the remainder can be divided, and it is therefore sensible to express the remainder as a common fraction or a decimal fraction. Other situations can be pictured in which there would be no meaning if the remainder were expressed as a fraction.

Teaching Carrying in Addition in Grade 3

The following plan illustrates the teaching of the rational principles which govern number relations and computational procedures (Outcome 2g).

Many pupils fail to understand the mathematical meaning of carrying in addition. Often teachers do not have the objective materials necessary to enable pupils to dramatize the procedure. A film which pictured the idea as the making of new ten-groups whenever this was possible and the combining of the newly formed ten-groups with those given would be helpful. The film could be used to follow basic experiences in the classroom; as a substitute for firsthand experiences; or for review purposes when the process of addition had not been studied for some time.

In the following outline for dramatizing carrying in addition, all stages from the use of real money to the symbolic representation have been included.

Social situation: Mary had 38 cents in her pocketbook. Her aunt gave her 24 cents. Now Mary wonders whether she

has enough money to buy a doll that she wants. The doll costs 60 cents.

Concrete stage: Mary lays out 3 dimes and 8 pennies which she takes out of her pocketbook. Her aunt hands her 2 dimes and 4 pennies. Mary groups her money with the dimes together and with the pennies together. She counts it by saying: 10, 20, 30, 40, 50, 51, 52. . . 62.

Mary's aunt shows her a quicker way to count her money, by grouping or piling up 10 pennies, so she can say: 10, 20, 30, 40, 50, 60, 61, 62. Mary says, "10 pennies are the same as a dime. Will you exchange 10 of my pennies for a dime?"

Her aunt makes the exchange, and emphasizes the fact that 6 dimes and 2 pennies are worth the same amount as 5 dimes and 12 pennies.

Mary decides that she has enough money to buy her doll and goes off to buy it.

A repetition of the above idea may be pictured in which Mary's brother, Tom, has 57 cents; his aunt gives him 24 cents also. By exchanging he finds that he has 8 dimes and 1 penny, or 81 cents.

Semi-concrete stage: There are boxes marked "tens" and "ones". In the tens' box there are tickets done up in packages of tens. In the ones' box there are single tickets. Button molds strung in bunches of ten, or any small counters which may be fastened together may be pictured. There are two small trays and one larger tray on a table.

Mary takes 3 tens and 8 ones out of the boxes, counting them as she does it, and places them on one small tray. Tom takes 2 tens and 4 ones and places them on the other small tray.

Mary and Tom turn their backs for a moment and the tickets from each of the small trays jump over onto the larger tray. Mary says, "Look, my tickets and yours are together now. They must want to play together. I wonder how many are on the large tray?"

On the large tray the tens hold hands and the ones hold

hands. Mary counts the tens—10, 20, 30, 40, 50, and Tom goes on counting—51, 52 . . . 62.

Just as Tom finishes, 10 ones group themselves together into a ten group and jump near the other tens. Mary says, "6 tens and 2 ones are the same as 5 tens and 12 ones."

Picture stage: Show 3 tens and eight ones in one row, and 2 tens and 4 ones in a row just underneath. Each ten is represented only be a group of ones. Draw a line to enclose 10 of the ones, then have them move into the bottom row to form a new ten. We now have 6 tens and 2 ones.

Symbol stage: In the picture stage, "tens" are represented by groups of dots or lines. Now we substitute figures and words. Thus, we have "3 tens and 8 ones" in the top row, and "2 tens and 4 ones" just underneath. The plus sign appears at the left of the bottom row, and a line is drawn under the row. Then, in synchronization with the narrator's voices it is shown that: (1) 8 ones and 4 ones are 12 ones; (2) 3 tens and 2 tens are 5 tens; (3) 5 tens and 12 ones are the same as 6 tens and 2 ones.

Starting again where we had the symbols and words on the screen, the narrator's voice says, "3 tens and 8 ones, that's 38," and the number 38 replaces words and symbols. "Two tens and four ones, that's 24," and 24 replaces words. Line is drawn under 24, and plus sign appears at the left of 24.

Narrator adds the numbers: "8 ones and 4 ones, that's 12 ones. But let's make 1 new ten from 12 ones and add it with the other tens." As he says this a small ^{1} in a circle appears above 3. "12 is a ten and 2 ones. We'll write the 2 which means 2 ones here." Voice adds the tens: "1 new ten and 3 tens are 4 and 2 more tens are 6." Each number named vibrates as the voice mentions it.

In a similar manner, a film would objectify the "borrowing" in subtraction. The terminology here is unfortunate. The film might clarify the idea for pupils greatly to show that in

subtraction we undo what we do in addition. That is, in addition we make new ten-groups to combine with the tens we have at first. In subtraction we "unmake" or "break down" a ten group to help us to get ones enough to subtract.

Space does not permit detailed descriptions of activities which might be filmed to teach other mathematical understandings. Only outlines are given for other suggested activities.

The Inch, and its Divisions, as a Unit of Measure for Length

(*Grades* 4-5)

Picture the use of a yardstick in finding the heights of children. Show the relation of the foot ruler to the yardstick. Picture a boy making himself a foot ruler from a narrow strip of cardboard.

Picture the division into inches by copying from a ruler. Emphasize the fact that the one inch *mark* is not one inch. By movements, make clear that 1 inch, 2 inches, etc., are lengths and not marks.

For use in the 5th grade or above, the film might well picture the division of the inch into halves, quarters, and eighths.

After the half inch marks have been inserted, introduce the counting by halves with the pointing to each division mentioned, that is, count $\frac{1}{2}$, 1, $1\frac{1}{2}$, 2, $2\frac{1}{2}$, 3 etc. Count also thus, $\frac{1}{2}$, 2/2 or 1; 3/2 or $1\frac{1}{2}$; 4/2 or 2; 5/2 or $2\frac{1}{2}$.

After the quarter-inch marks have been inserted, introduce counting by fourths in the two ways suggested above. The same procedure may be followed after the eighth inch divisions have been made. Thus pupils are provided with basic experiences with whole numbers, improper fractions, and mixed numbers.

After the ruler has been completed, demonstrate the method of using it to measure to the nearest eighth of an inch.

The Square Inch, Square Foot and Square Yard as Units of Measure for Areas (*Grades* 5-7)

Picture Mary making badges for the pupils in her class. She is making square badges 3 inches on a side, from red felt and blue ones, 2 inches by 4 inches, from blue felt. Mary speculates as to whether the blue or the red badges take more material. She measures around the edge of each shape and finds that each one is 12 inches around, but that doesn't convince Mary.

Picture a pile of cardboard square inches. Mary covers the red and blue badges with square inches and discovers that the red badge requires one more square inch than the blue badge. Differentiate between measures of length and measures of surface or area. Picture the covering of other areas with square inches.

Picture Mary's schoolroom with one section of blackboard missing. The question is to find out how much slate to buy to replace the missing section. Discuss the use of a measure one foot on a side, as a unit of measure. Use a piece of cardboard representing a square foot and by direct measurement find the number of square feet in the missing section of blackboard.

Show the finding of other areas by marking them off into square inches or square feet, and gradually lead to the development of the generalization that the area of a rectangle equals the length times the width.

To further clarify the concept of area, picture the covering of a floor with linoleum which comes in pieces which measure a yard on a side. Picture the painting of a wall by covering a square yard at a time.

Contrast with these measures of areas, some measures of lengths, as the amount of lace necessary to go around a tablecloth.

Teaching the Nature and Structure of the Number System

(*Grades* 3-6)

Concrete materials may be pictured to help pupils to understand the following characteristics of our number system: (a) it is a decimal system; (b) it employs the principle of place value; (c) zero is used as a place holder.

Picture the counting of sheets of paper as they are taken from a large pile. When 10 sheets are counted, they are rolled together and tied with a blue ribbon to form one ten. A group of children may be making tens, so there soon results a stack of tens.

Next, 10 rolls of ten each may be fastened together with a red ribbon to form bundles of a hundred each. When all the sheets of paper in the original pile have been counted, there will result hundreds, tens, and single sheets. Three boxes made of transparent plastic material may be brought in and the labels "hundreds," "tens," and "ones" put on them. The sheets of paper may be distributed appropriately in the boxes.

The relation of number symbols to actual quantities of paper may be made by getting designated amounts from the boxes thus:

To get 342 sheets, get 3 bundles from hundreds' box, 4 rolls from tens' box, and 2 singles from ones' box. By pretending, get 342 sheets by taking 34 rolls out of the tens' box and 2 singles, or get 342 sheets from ones' box.

To extend the idea to include decimal fractions, take one sheet from the ones' box; cut into 10 equal strips. Add another box called the tenths' box and put the tenths into it.

Next take one of the tenths, cut it into 10 equal parts. Add another box called the hundredths' box and put the hundredths into it.

Use the materials in the boxes to help pupils to visualize mixed decimals as the following: 2.5; 24.04; 120.26; etc.

From a variety of experiences and after discussion and

explanation, develop the basic generalization: In going from left to right in a number, each place represents 1/10 the value of the place next to it.

Understanding of Business Practices and Other Economic Applications of Number in Grades 7 and 8

The applications of number to the topics of taxation, banking, insurance, installment buying, investments, budgeting, etc., require an understanding of the socio-economic aspects of these topics. Many of these understandings are gained from the variety of activities carried on in the social studies classes and in home economics classes. A limited number of films have been produced which aim to assist pupils in gaining these understandings. These films are useful in mathematics classes if they have not been used previously in other classes.

Applications of the Film in Algebra

The introduction to algebra is usually made through a study of formulas that represent symbols and relationships which can be made concrete and meaningful for pupils. Formulas for perimeters, areas, and volumes are often selected for this purpose. Suggestions are presented for sound films which would help to make formulas meaningful. Activities of the type described below are often carried on in the teaching of intuitive geometry in the Junior High School.

Formula for Circumference of a Circle: Picture the measurement of the circumference of a circular disk. Do this by placing a mark on the outer edge of the disk, then place this mark at the end of a straight line. Roll the disk along the line until the mark again touches the line. Erase the part of the line which extends beyond the point needed to represent the circumference of the disk.

Use a piece of string to measure the diameter of the disk. Cut off a piece of string equal to the diameter.

Apply the length of string to the line which represents the circumference of the disk, thus showing that the circumference is a little more than three times the diameter.

Repeat the above steps using two other disks—one much larger than the first, and another smaller than the first disk. Use a meter stick and measure as accurately as possible the circumference and the diameter. Do the same for the other disks. Record the measurements and the ratio of circumference to diameter in a table thus:

	Circumference	Diameter	C ÷ D
1st disk			
2nd disk			
3rd disk			

From the exact measurements the relationship will come out about 3.14 or 3 1/7. The symbol π may be introduced and the formulas $\pi = \frac{C}{D}$; $C = \pi D$; $C = 2\pi r$ may be presented:

This is the kind of film which might stimulate pupils to make measurements of their own.

Formula for Area of a Circle

Picture the cutting up of a circular piece of paper into 16 equal sectors. Fit these equal sectors together to form a figure which approaches a rectangle in shape with the height equal to r and the base equal to half the circumference or πr. Then the area of the rectangle equals πr^2, so the area of the circle which was cut up equals πr^2.

Formula for Volume of a Rectangular Solid

Picture a rectangular piece of cardboard 3 inches by 4

inches and divided into 12 square inches. Picture also a pile of cubic inches made of paper or cardboard.

Over each square inch paste a cubic inch, thus showing the relation of the area of the base to the volume of a solid one inch high.

Repeat the above activity, placing the second tier of cubic inches above the first to form a solid 2 inches high. The volume is equal to the area of the base, multiplied by 2, the height.

Continue thus to build a solid 4 inches high. Then present the generalization that the volume of a rectangular solid equals the area of the base multiplied by the height. The area of the base equals lw, so $V = lwh$.

Formula for Volume of Cylindrical Solid

Picture a cylindrical roll of clay about 4 inches in diameter and 5 inches high. Picture the roll being cut into circular disks one inch thick.

Mark one disk off into square inches and use this disk for the base. Build upon it the other disks.

Present the formula that the area of the base or the number of cubic inches in one disk equals πr^2. The number of cubic inches in the entire roll equals $\pi r^2 h$. $V = \pi r^2 h$.

Formula for Volume of a Cone

Picture cylindrical and conical containers having equal bases and equal heights. Picture filling the cone three times from sand or water contained in the cylinder. Thus the formula for the volume of a cone is developed. $V = 1/3\pi r^2 h$.

Tangents of Angles

The first-year algebra course usually contains one unit dealing with numerical trigonomentry. A film which pictured the changes which take place in the trigonometric functions as the size of the acute angle changes from zero to 90 degrees would lead to a much more thorough understanding of the unit. Illustrations are given for the tangent, sine, and cosine ratios.

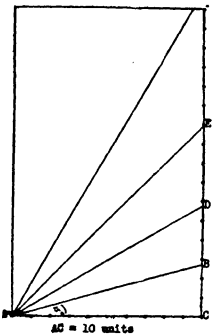


FIGURE 1

Picture triangle CAB with angle A = 15° and side AC = 10 units. BC is approximately one fourth of AC Tangent 15° = .27.

Increase angle A to 30° and form triangle CAD. CD is a little more than ½ of AC. Tangent 30° = .57.

Increase angle A to 45°. CE = CA. Tangent 45° = 1. Continue thus, showing that as the size of angle A approaches 90° the value of the tangent ratio approaches infinity.

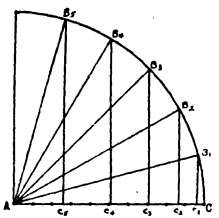


FIGURE 2

Sines and Cosines of Angles

Picture the changes that occur in the value of the sine and the cosine of the angle as the size of the angle increases from zero to 90° by showing successively the drawings in Figure 2.

Applications of the Film in Geometry

In the teaching of both intuitive and demonstrative geometry, teachers have always utilized a variety of aids— drawings, pictures, models, etc.— to help pupils to visualize abstract relationships. However, many of the concepts of geometry involve ideas of motion. It is in the presentation of these concepts that films can provide valuable assistance.

Henry W. Syer discusses this point in his excellent chapter,

"Making and Using Motion Pictures for the Teaching of Mathematics," in the Eighteenth Yearbook of the National Council of Teachers of Mathematics. He states:[3]

> "The teacher who is alert to such phrases as: "if point P approaches P^1," "the area approaches a limit," "the number of divisions becomes infinite," "place AB on A^1B^1," "under pressure the circle becomes an ellipse," or "the angle increases" will have no scarcity of subjects. In short, by noting the thousand and one places where change of position (motion), change of shape (transformation), correspondence, or limit is implied, topics will be found. The secret is to use motion where it is implied in the mathematical argument, and where the expert and gifted mathematician supplies it with his intuition and imagination."

After application of the basic principle given above, Mr. Syer lists more than 30 topics which would be suitable for filming. Among them are included the following:

> Locus problems
> Angle measurement in a circle
> Area of circle as limit of inscribed and circumscribed polygons
> Cone as limit of pyramids
> Cylinder as limit of prism
> Sphere as limit of polyhedra

In his prophecies for the future, Mr. Syer says:[4]

> "In addition to true-to-life demonstrations of solid geometry, it would be interesting to make greater use of the peculiar advantages of moving pictures over ordinary models. In plane geometry films we used figures which changed shape, position, and color without distracting pauses or outside aid.

[3] *Multi-Sensory Aids in the Teaching of Mathematics*, p. 326. Eighteenth Yearbook of the National Council of Teachers of Mathematics. Bureau of Publications, Teachers College, Columbia University. New York, 1945.

[4] *Ibid*, pp. 243-344.

This continuous and swift succession of illustrations is fast enough to keep up with a spoken description, or even as fast as the thought processes that are developing the idea. Thus no time is lost erasing pictures from the blackboard, changing lantern slides, or holding up illustrations, because the illustrations and thought move simultaneously."

Summary

Although only a limited number of mathematics films are available at the present time, there are a number in production. This is evidence of the fact that there is increased recognition of the value of films in this area. As teachers become fully aware of the importance of mathematical understandings as goals they will welcome the use of films as effective teaching aids.

Films can be used in the mathematical laboratory to provide readiness for a new concept, to introduce new concepts and to provide understanding of social situations and their quantitative aspects.

Mathematics Films

(Films preceded by a star were in production at the time the following list was compiled.)

YOUNG AMERICA FILMS, 18 East 41st Street, New York, 17, N. Y.

What is Four (Grades 1-3)
This film develops the meaning of the number 4, stresses its organization and structure, as well as its significance or usefulness in familiar social situations.

Parts of Nine (Grades 1-3) A sequel to *What is Four*

Parts of Things (Grades 2-3)
An introduction to the meaning of fractions.

The Teen Numbers (Grades 2-4)
An introduction to our decimal number system.

The Meaning of Percentage (Grades 6-7) An introduction to the study of percentage.

JOHNSON HUNT PRODUCTIONS, 1133 North Highland Avenue, Hollywood 38, California.

Introduction to Fractions (Grades 3-5)
The meaning and use of fractions are shown by animation.

How to Add Fractions (Grades 4-5)
Reviews the definitions of a fraction, denominator and numerator.

How to Subtract Fractions (Grades 4-5)
Shows how to subtract fractions with and without a common denominator, and also how to subtract fractions from the whole and mixed numbers.

How to Change Fractions (Grades 4-5)
Explains how to convert common fractions to equal common fractions having higher or lower terms.

How to Divide Fractions (Grades 5-6)
Shows how to divide by a fraction and then gives a detailed explanation of why, if you invert the divisor and multiply, you will have the correct answer.

How to Multiply Fractions (Grades 5-6)
Explains by animation the method used to multiply two common fractions and explains why this procedure gives the correct answer.

ENCYCLOPAEDIA BRITANNICA FILMS INC., 20 North Wacker Drive, Chicago 6, Ill.

Long Division (Grades 6-12 and Teacher Training)
By means of animation this film explains the meaning of long division. Graphic representations of numbers come to life to show how long division works.

Property Taxation. (Grades 7-12)
The film portrays the social usefulness of property taxation, the types of government expenditures supported by property levies, public financing through bond issues, and procedures of levying taxes on property. Arithmetic problems involved in these activities are demonstrated in a series of animated scenes.

Individual Differences in Arithmetic.
Dr. G. T. Buswell of the University of Chicago demonstrates a machine which photographs the eye movements of a child in adding figures, another machine which records the rhythm of a pupil's adding and finally a diagnosis to aid pupils in mastery of the subject.

The Play of Imagination in Geometry. (Grades 10-12)

**Using the Bank.*

CORONET INSTRUCTIONAL FILMS, 65 E. South Water Street, Chicago 1, Ill.

Meaning of Fractions (Grades 3-5)
Attempts to accomplish just what the name implies.

Measurement. (Grades 5-12)
Treats seven kinds of measurement: linear, square, cubic, weight, liquid, temperature, time. The illustrations highlight the importance of measurement to modern living and motivate the study of means and tools of measuring.

Sharing Economic Risks (Insurance). (Grades 7-12)
A conceptual film which develops the term, economic risk, showing how insurance works, and defining insurance terms.

What is Money? (Grades 7-12)
A film designed to establish these basic concepts: what money is, why money is used, and how it can be used.

Fred Meets a Bank. (Grades 5-12)

This story of a bank and its functions presents the purpose and handling of a check, opening a savings account, securing a loan, and a visit to the safety deposit box.

**Language of Graphs* (Grades 7-9)

Treats the uses of graphs and something of how to construct the important types of graphs.

MODERN TALKING PICTURE, INC., 9 Rockefeller Plaza, New York 20, N. Y.

Money at Work. (Grades 7-12)

This film pictures the N. Y. Stock Exchange in operation, shows how trading is done, and how quotations are made available to investors. It shows the relationship between industry, the investment banker, the Stock Exchange, and the investing public.

GENERAL ELECTRIC CO., Visual Instruction Section, 1 Rive Road, Schenectady, N. Y.

When You Can Measure.

Explains the use of electric measuring instruments and the development of modern types, the accuracy of manufacture of parts and their precision assembly.

KNOWLEDGE BUILDERS, 625 Madison Avenue, New York 22, N. Y.

Indirect Measurement (Grades 9-12)

Need for indirect measurement techniques is established by showing specific situations where direct measurements cannot be made. Film then demonstrates three methods of indirect measurement—congruent triangles, similar triangles, and trigonometry.

Polygons (Grades 9-12)

Opens by showing real life polygons. The definition

of polygon and the idea of convex and concave are clarified by animation. The inscribed circle and the circumscribed circle of a regular polygon are described.

Properties of Triangles (Grades 10-12)

The practical importance of the rigidity of the triangle is illustrated by comparing the strength of triangles with the strength of non-rigid figures. Animated treatments of the angle bisectors theorem, the perpendicular bisectors theorem, the altitudes theorem, and the medians theorem follow.

Pythagorean Theorem (Grades 10-12)

Presents the historical background of the theorem and includes a detailed discussion of an interesting use of the 3-4-5 triangle by the Egyptians. The theorem is proved and examples are shown.

Simple Fractions (Grades 4-5)

Gives meaning to fractions. Animation is used in repeated examples to show the roles played by numerator and denominator. Simple additions are made reasonable by showing parts being combined. Concrete objects are used in the gradual development of abstract ideas.

Lines and Angles. (Grades 10-12)

Shows how angles are formed and measured.

Angles. (Grades 10-12)

Presents all the various types of angles and their relationship to each other.

Congruent Figures. (Grades 10-12)

A demonstration of the geometric principles for finding and proving that triangles with "equal sides," "equal angles" or the combinations of both are equal and congruent.

Similar Triangles. (Grades 10-12)

Shows practical uses and properties of similar triangles, and demonstrates the "two angles equal" proposition.

Quadrilaterals. (Grades 10-12)

Illustrates and explains the chief properties of the important quadrilaterals, such as: parallelograms, rectangle, rhombus, square, trapezoid and trapezium.

Locus. (Grades 10-12)

Concept of locus is visualized and explained by a combination of animated drawings, regular photographic motion and the spoken word.

The Circle. (Grades 10-12)

Radii, diameters, chords, tangents, secants, arcs and central angles are presented and clarified. Theorems and proofs are introduced.

Chords and Tangents of Circles. (Grades 10-12)

Deals with the theorem on a perpendicular to a chord within the circle. All types of tangents are dealt with in detail.

Angles and Arcs in Circles. (Grades 10-12)

Deals with the measurement of central angles, arcs, inscribed angles and angles formed by two chords.

Areas. (Grades 10-12)

Shows demonstrations of methods for computing areas of rectangles, parallelograms, triangles, and circles.

Origin of Mathematics.

Deals with the history of numbers and geometry.

H. W. ALLERS, 960 So. Oxford Ave., Los Angeles, Calif.

Rectilinear Coordinates.

An introduction to plane and solid analytic geometry.

BALD EAGLE FILM PRODUCTIONS, 104 Howe St., Annex, New Haven, Conn.

Geometry in Action. (Grades 7-10)

Introduces the student to geometrical forms and figures as found in the hexagonal honeycomb, cylindrical oil tanks, skyscrapers, symmetry of a dress pattern, parallel lines of oars in a crew race, suspension bridges and transportation on land, sea and air.

CHEVROLET MOTOR DIVISION OF GENERAL MOTORS CORP., Detroit, Mich.

Precisely So.

Shows the history and development of standards of measure and the need for accuracy in the production of engines.

CASTLE FILMS, INC., 30 Rockefeller Plaza, New York. N. Y.

The following five films were produced under the direction of the U. S. Office of Education to help in training workers for war industries. They can be used effectively in mathematics classes to emphasize the fundamental concepts of measure.

The Steel Rule.
The Micrometer.
Fixed Gages.
Vernier Scale.
Height Gages and Stardard Indicators.
The Slide Rule.

CHAPTER IX

APPLICATIONS OF THE FILM IN THE SOCIAL STUDIES

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The general aim of all education is to assist in the growth of well-rounded individuals, prepared in body and mind and spirit to take a place in society and to make their contributions to the world. "The main function of the social sciences is the acquisition of accurate knowledge of, and informed insight into, man and society; that of the social science instruction is the transmission of such knowledge and insight, with attendant skills and loyalties, to the individuals composing society."[1] How, then, can the motion picture help the boys and girls in our schools to learn more about man and society? Is the motion picture a desirable tool for use by a teacher interested in building desirable social attitudes?

The answers to the above questions can not be given simply and categorically. To be sure the motion picture can bring to the social studies classroom vitalized information about man and society. It can present social information in a scholarly and scientific fashion. Through its combination of visualized motion and realistic sound, the film can overcome the limitations of time and space and help the students to understand the problems and the contributions of other times and places. It can help to make the past real and the present understandable. The problem of the proper use of this medium of learning in social education is complicated, however,

[1] American Historical Association, Commission on The Social Studies, *Conclusions and Recommendations*. New York: Charles Scribner's Sons, 1934. p. 7.

by the fact that human living is complex and difficult to organize into units which may be readily comprehended by the youth in our schools.

When the school curriculum consisted largely of reading, writing, and arithmetic, the bulk of our social learnings was gained through experiences outside of the school walls. Then as our way of life became more involved, history and geography were added to the school curriculum to aid the growing citizen in his understanding of how the present grew out of the past, and how man has adjusted himself to his environment. At about the turn of the past century the study of civics was introduced to furnish students with training in citizenship. Recently a growing number of schools have added courses in economics, sociology, and international relations. An increasingly large number of schools now teach a Problems of Democracy course which introduces students to contemporary political, social and economic problems.

Most of the above courses have been added to the secondary school course of study and borrow their subject matter from the findings of the social scientists. Thus the term *social science* is usually applied to studies which have as their objectives the addition of factual information to man's sum of knowledge. The *social studies* as taught in our schools are intended to "provide the basis for making the world of today intelligible to the pupils, for training them in certain skills and habits and for inculcating attitudes and ideals that will enable boys and girls to make their places as efficient and effective members of a democratic society."[2]

The problem of using motion pictures as tools of instruction in elementary school social studies has been made more difficult not only by the addition of materials adapted from the various social sciences, but also by the diverse forms of organization which the various school systems have worked

2 Bining, Arthur, C., and Bining, David, H., *Teaching the Social Studies in Secondary Schools*. New York: McGraw-Hill Book Co., 1935. p.3.

out for the social education of their pupils. As might be suspected from even a cursory examination of social studies courses, there is no dominant pattern common to the schools of the United States. The first and second grades do study home, school, and community. The large community of state, nation and sometimes the world is introduced in the third grade. From this point on there is little common ground among the curriculum makers. In Grade Four "Type Regions of the World" is studied in more than half of the schools, but a recent study made by the writer shows that, in 46 selected courses of study, 27 different topics were taken up in the various schools. In Grade Five, United States history and Regional Geography of the United States are studied in 37 out of 44 schools. Twenty-two other topics are discussed. The offerings in Grade Six are scattered among 28 different topics with World Geography, American Neighbors, and Eurasia leading the list.

The variety of offering in elementary school social studies has complicated the production of teaching films in this area. The producer finds little common ground to guide him in the preparation of specific films for definite grade levels. The problem is further complicated by the fact that some schools cling to subject matter lines of approach, keeping history, geography, and citizenship studies separate. Other schools use the unit approach, choosing broad topics such as "How We Are Clothed," Life in the Machine Age," and the like. Under such organization material is taken from history, geography, economics, sociology or any field which helps to explain and enrich the main topic. Still other schools adopt the 'core curriculum" in which much of the school day is devoted to studying a certain aspect of living; and arithmetic, language, arts, science and the other disciplines are brought in as they are needed to explain a phase of the core.

The great diversity of approaches to social learning and the organization of materials in the social studies has made

each teacher's job unique. He has had to find materials particularly suited to his local situation and to his particular group of pupils. Thus no general dicta can be laid down concerning choice or method of utilizing desirable material. With these limitations in mind it is still possible to offer certain general principles and criteria for the choice of motion pictures for use in the social studies, and methods of utilizing this type of material. The application of these criteria and principles must be made by each teacher in the light of his own needs.

The first job of every teacher wishing to vitalize his social studies teaching is to examine carefully his course of study. What are the specific objectives for the year's work? Having determined these objectives, the teacher must now plan the type of approach and the kind of materials which will be most useful in attaining the ends toward which he and his class are striving. In certain instances, he may conclude that the very best way to put a certain point across is by a judicious use of a text or collateral reading. Other social learnings may best be acquired through well-planned field trips. Still further ideas may lend themselves to map study, elementary research, construction activities, slides, filmstrips, or recordings. Many ideas in his course of study will, however, be best presented through a well selected motion picture. Ideas involving motion, dramatic presentation, historical reconstruction or a documentary view of some phase of social living need the realism of a motion picture to bring them to life.

Having made such an analysis of the work which his class is about to undertake, and having determined the areas which need to be studied through the use of the motion picture, the teacher will now set out to find suitable films. In some instances he may find that the film suited to certain specific purposes is simply not available and then he must fall back upon the next best means of presentation. On the other hand he may find a large number of films which are exactly suited

to his purpose. Teaching films are being produced at a rate which is heartening to the social studies teacher.

In general, the social studies teacher must seek and encourage the production of films which meet the following general criteria:

1. Each social studies film should attempt to reach only a few specific and significant objectives, thereby permitting an adequate and clear treatment of each.
2. The film material should be presented in such a fashion as to stimulate discussion concerning the social significance of the material which is pictured.
3. The civics film should show the changing nature of the community and the changing duties and obligations of the citizen in the society in which he lives and works. This picture of our community and its government should be realistic and functional.
4. The geography film should stress the relationship between natural environments and the distribution and activities of man. This includes such ideas as regional concepts, conservational concepts, the analysis and scientific description of the landscape, and space concepts such as location and regional size and form.
5. History films should demonstrate the idea of change, showing development and illustrating how everything that is grew out of that which was. This picture of the past should, of course, be accurate and filled with the details of history which help to explain differences in peoples, customs, and institutions at different periods in the world's history.
6. Sociological films should provide accurate impressions "Of what society has been and is, how society works, and what the causes and consequences of social action are."[3]

[3] Johnson, Henry, *Teaching of History,* New York: Macmillan, 1930. p. 76.

7. Films which are used to illustrate economic aspects of our existence should dramatize our economic institutions, show how they have developed, give an understanding of the unsatisfactory elements in our economic life and the need for cooperation with others to achieve better conditions of working and living.
8. The particular social studies film under consideration should be suited to the grade level, the intellectual maturity, and the background of the students with whom it is to be used.
9. The film should be presented in a logical, sequential order which emphasizes the main points to be learned.
10. Finally, the film should be technically of a high order, with good lighting, composition and sound.

With these criteria in mind the instructor can make an intelligent choice of films from the pages of his local film library's catalog. To augment his judgment he can also use the annotations and judgments contained in such guides as the H. W. Wilson Company, *Educational Film Guide* or the American Council on Education's *Selected Educational Motion Pictures*. He will also want to keep up to date with the film news in such publications as *Educational Screen, See and Hear, Film and Radio Guide, Film News,* and *Social Education.* While the judgment of others concerning films will be of great value to him in helping to select films to be used in his classes, the teacher will find that, in the final analysis, the true worth of any film can only be determined by actual use in his own classroom. Other teachers, visual education experts and preview groups may find a film to be excellent in their own judgment but its true worth will be determined when it is finally presented to a particular class to serve a specific purpose.

Having obtained a social studies film at the time when it will serve his purpose best and having arranged for projector and screen—often no small feat in itself, the teacher now is faced with the best procedure for obtaining maximum

learnings through this film medium. He will of course preview the film and decide upon the best way to fit it into his learning plan. Perhaps after viewing it the teacher may decide that the best way to present it to his class is to simply turn on the projector and let the film tell its own story. Then after the showing he will discuss with the class the main ideas, the new concepts and the generalizations presented by the film. Or our teacher may decide that the class needs special instruction, further orientation, and the introduction of needed factual material before the film can be shown with greatest profit. The best way of arousing interest in the film to be shown may be to raise questions which will be answered by the film and which, in the light of the pupil's experience and background, seem important and challenging. These questions may be written on the blackboard and may constitute the focus of attention for the period following the presentation of the motion picture. The motivating exercises which precede the film showing must be determined by the person who knows the class best, and this person is presumably the teacher. No set formula can be given which works equally well in all cases. One teacher may decide that he will have a committee of pupils preview the film and, under his guidance, this committee will introduce the film to the class and suggest pertinent problems which the film may answer or interesting things to look for in the film. Another teacher may decide that his class needs to be warned that the film viewing is a learning exercise of considerable importance and that an objective test will be given immediately after the discussion which will follow the film. In still another case the emphasis may be placed upon new words or phrases which appear in the film and special dictionary work will preface the film showing, and special attention will be paid to the way in which these words are used in the film. The teacher's analysis of the film in the light of the problems presented by his class will determine the manner in which the film is presented both in the pre-showing, discussion, and the follow-up.

Perhaps several further examples of films usage will indicate how important it is to consider the nature of the class and the unique contributions which a particular film can make. Practically every investigator into the problem of film utilization has emphasized the extreme importance of following the film showing with class discussion. They have warned that false impressions may be obtained from films just as erroneous concepts may come from reading a text. Wittich and Fowlkes have proved statistically that more learning results when a film is followed by discussion and tests.[4] In spite of this sound advice there may be an instance in the social studies where the very best follow-up advice is simply to ask the class to think about what they have seen. For example, a class in junior high school civics may be studying intercultural relations. The teacher decides to show them the Frank Sinatra film, *The House I Live In* (distributed by Young America Films). This film carries a powerful message concerning respect for others regardless of race or religion. The whole film packs an emotional punch of great intensity. In many situations, any talk following the film would be in the nature of an anticlimax. The best thing to do would be to have the class think it over until the next day and then prehaps give voice to their conclusions.

Still other problems of film utilization might be raised by using the Encyclopaedia Britannica film on *Water Power* in a geography class studying the hydro-electric resources of our nation or of the world. This film crams a large number of highly important ideas and facts into an 11-minute film. Taking for granted that this class has already been introduced to the general concept of the manufacture of electricity from the power of falling water, this film might be introduced by a review of these general facts and an overview of ideas contained in the film. The film is then shown to the pupils. Following the showing the new ideas which the film has brought

[4] Wittich, Walter, A., and Fowlkes, John Guy, *Audio-Visual Paths To Learning*. Harper and Brothers, 1946. Ch. III.

before the class are discussed and questions are raised by pupils and teacher to clarify any ideas which are still hazy. Then the film might profitably be shown again in the same period to clinch the new ideas and to vitalize and show relationship with what has been previously learned. Thus a lesson woven around this film might follow a time schedule something like this; a 10 minute introductory period, 11 minutes for showing the picture for the first time, 10 to 15 minutes of follow-up discussion, another 11 minute showing, and then a brief summary of what has been learned in the remainder of the period after the second showing.

The foregoing discussion leads us to a consideration of the proper moment in the course of the unit for introducing materials in motion picture form. Should films be used to introduce the unit, to illustrate a particular point, or to summarize at the end of a unit? The obvious answer is that the film should be introduced at the psychological moment when it will do the most good. The writer used the Encyclopaedia Britannica film, *Conservation of Natural Resources,* to introduce a six weeks unit on Conservation in the sixth grade. The film was ideal for this purpose. It showed what has happened to our natural resources, and what we might do about it. The same film used again in the same unit about three weeks later stressed the fact that each of the various resources of land, water, forests and wildlife are interdependent and what helps save one or waste one influences the others. The film was used again at the end of the unit to sum up the learnings which had taken place over the six week period. The film was used each time with a definite purpose in mind. The pupils knew what this purpose was and it became their purpose in viewing the film. Rather than becoming tiresome the film became more interesting each time it was viewed, for the pupils were seeing it in the light of additional background. As a matter of fact the third viewing seemed to be the most enjoyable of all and now the class felt that it had a thorough understanding of the

ideas in the film and they could really nod in approval when a telling point was being made.

It does seem, however, that too many of the overview and review types of film have been produced for the social studies. Films on transportation, communication, shelter, farm life and the like have been too introductory in nature. There has been and is a real need in the social studies for films which will take a specific point and develop it fully in such a manner that the pupils will really understand, as well as this medium can transmit it, the pertinent facts and fundamental concepts surrounding a limited area of the social studies. More and more of the recent productions for classroom use have taken this point of view, and instead of trying to cover everything in a 10-minute film, they have been offering a more concentrated, more detailed picture of some phase of social living.

To say that films for the social studies should be more inclusive and limited in scope does not imply that they should do all the teaching. The best films will always be those which challenge the pupils to ask questions, to want to go on learning more. The best films will send the pupils to books for further facts and figures and will stimulate thought and interest about the world of things and ideas. The teacher will use films not only to build up factual background, but as stimulators of discussion and as evidence that there is still a place in our civilization for people who are willing to think, experiment, and cooperate with others in making a better world possible.

So far the comments which have been made in this chapter apply solely to the classroom film. The theatrical film is also rich in potential learning possibilities and should not be neglected by the alert social studies teacher. Such photoplays as *Wilson* and *Henry V*, shorts like the *March of Time* subjects may be utilized as enrichment activities. A class committee may volunteer to view films of social significance as they appear at the local theater and report to the class concerning their

content. The social studies teacher may work with the local theater owner in sponsoring special matinees of outstanding films. An historical feature appearing at a local theater may be used as an exercise in historical criticism. By checking on available source material the class may determine whether characters and events have been accurately portrayed by Hollywood. Or the teacher may simply refer to a feature film which a large number of the pupils have seen as an example of some idea which he wishes to illustrate.

Too often, however, the feature film of historical or social worth does not appear at the local theater at the time when they might be of the most value for class work. Fortunately for education, a large number of these films are now available in 16mm form. The teacher and his classes can sponsor the presentation of such films as auditorium attractions. Used judiciously such features may arouse a real interest in history and may indicate to the pupils that a study of history or civics adds to the enjoyment of motion pictures and vice versa.

Shorts, such as those of *March of Time,* are now available for regular classroom use. These films have a documentary flavor and give the pupils a sense of having a part in important happenings. More recently, Teaching Films Custodians has made available specially edited classroom editions of feature films with historical content. These films show human activities against their historical background, illuminate the content of history and help to make the past real. Most important of all, this type of film makes historical processes understandable in terms of how and why human institutions developed out of the needs of the people.

Whether the teacher uses classroom films, feature films, documentaries or newsreels, he will find that this type of material opens up new vistas of realistic learning. Properly used, the film will add much to the efficiency of the educative process by presenting factual information in a dramatic setting. Youngsters will enjoy learning more because situations are

made real to them, and become a part of their background. Most important, the film helps to build attitudes which may be properly channeled into creative efforts which will improve the quality of our social relationships.

CHAPTER X

APPLICATIONS OF THE FILM IN LANGUAGE ARTS*

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Since all phases of our speaking, writing, reading, and listening activities are included in the language arts, we can truly say that more opportunities for film use exist in this field than in any other one. Why then are there still thousands of English teachers who are not using films extensively?

Undoubtedly, one of the reasons is the lack of facilities for the obtaining and showing of films. Involved in this problem is the matter of equipment, film budgets, and audio-visual supervision. Another contributory cause is the attitude of the English teacher toward films. To some English teachers, the running of a projector, the film-teaching lesson, and the sources of films are things unknown to them, and therefore they avoid film use whenever possible. This avoidance reaction may have been intensified by an unpleasant past experience with films, such as, the showing of an unsuitable film, the projection of a film under unsuitable conditions, or the unsuccessful conduct of a lesson based on a film showing. "I don't know any films to use," was the reply of one English teacher when asked why she didn't use films. Her comment gives a typical reason why she and her colleagues avoid film use. Also responsible for this avoidance pattern is an attitude developed before audio-visual aids were used widely. With this

* *Editor's Note*: For a discussion of film use in beginning reading, see Chapter VI.

attitude the English teacher mistakenly believes that she is concerned only with books and printed materials, and that the science and other subject teachers would be concerned with films. A similar attitude might be attributed to some of the producers of educational films today who ignore the English field.

All of these problems relating to the more extensive use of films in the language arts program can be solved by the schools, the teaching staff, the school administrators, the film producers, and others. Certainly, communities can support their language arts program sufficiently so that adequate projection equipment, films, and trained audio-visual workers are provided. The trained audio-visual worker will help the English teacher by showing her how to project the film properly or supply her with a person who will take care of all the mechanical details of the showing. The audio-visual worker will, in cooperation with the English supervisor or department head, help the teacher in planning the use of the film in connection with the lesson to be taught. This worker will also make available lists of films such as *Audio-Visual Aids for the English Teacher*[1] and "Literary Works for the Educational Screen,"[2] from which the teacher can make intelligent selections of films for use in the future. An acquaintance with the films available for language arts classes will serve to show the English teacher that she can use films as well as books and printed materials. An acquaintance with the ways that the film can be applied in the language arts classroom will help her to see the many opportunities that film use offers to her.

Oral and Written Expression

It is in the field of oral expression that the film can contribute a great deal to the language arts program. Every Eng-

[1] Kirk, Margaret, *Audio Visual Aids for the English Teacher.* Department of Library and Visual Aids, Board of Education, Newark, N. J. December, 1946. 8 pages.

[2] Schreiber, Robert E., "Literary Works for the Education Screen." *The English Journal,* XXXVI, No. 1 (January, 1947), 29-34.

lish teacher wants her students to improve their facility and accuracy of speech, and in order that the students may speak in the classroom they must have some *content* about which to speak. This content can be a common experience of the students, so that each student will have the same basic ideas to discuss. The showing of a film to all of the students provides that common experience. Of course, the film must be one that will stimulate discussion, for some films, like some books, do not stimulate their audiences. The film will not need to be one closely allied with literature; it might be on almost any stimulating topic suitable for classroom discussion. The film would not need always to be shown in the classroom; in some cases, films shown in assembly programs have provided excellent points for discussion.

In one school, *The Plow That Broke the Plains*[3] was an excellent vehicle for discussion. The students in an English class saw the film; then after a discussion of the film's story, they discussed the methods and values of conservation not only in the area of the "dust bowl," but in other areas as well. Especially interesting were the students' comments on the good and bad examples of conservation on the local level.

In the teaching of writing, the film is an effective means of motivation. The film gives the students *content* about which to write, and it suggests writing ideas which might be used. For example, after showing of *New Voice for Mr. X*[4] the students might write about the film itself; what Mr. X does to improve the careless telephone usage and habits in his own office. Or the students might write on such topics as "Telephone Voices I Have Known," "How the Telephone Works," "The Telephone, a Curse or a Blessing," "The Line Is Busy," and "Telephone Troubles."

A recent project directed by Alexander Frazier of the Los Angeles County Schools shows how films can be used to motivate oral and written work in secondary school English

[3] U. S. Dept. of Interior.
[4] Bell Telephone Co.

classes. More than thirty teachers in the Los Angeles County Schools participated by showing several of twenty-two selected short films and by using teaching suggestions furnished with the film. The teaching suggestions included (1) pre-showing questions for discussion: (2) questions to be discussed after showing: (3) topics for speaking and writing: and (4) a reading list with annotations. Teachers and students were asked to comment on the films and procedures and to suggest additions to the teaching materials. Following are two sets of teaching suggestions reproduced from the Los Angeles County monograph. The first one illustrates how a film dealing with the airplane and air transportation might be used in the English classroom. The second one shows the way that a film about the discovery of the use of vaccination for smallpox could be adapted to English work.[5]

AIRWAYS OF THE FUTURE. (11 minutes, March of Time). The "miracle of the global airways" is forecast by the wholesale development of the Army Transport Corps. Picture shows origin of service in request for vital ammunition to defend Egypt in 1942 and the growth of the service around the world. Effects upon native peoples working at airports are indicated.

Pre-showing questions. 1) Do you think you will ever take your two weeks' vacation in India? China? 2) Will the passenger service on future airways cause train and bus travel for long distances to disappear? 3) Did we have enough experience with air travel and transport during wartime to tell us how to operate peacetime world airways?

Post-showing questions. 1) How extensive do you think air transport of freight is to be? 2) Should the government maintain the worldwide air bases and lines already set up? 3) Will the natives who work at the air bases take over all the operations as was suggested? 4) What kind of world picture do you suppose the natives have received from observing the ATC visitors? 5) How will round-the-world peacetime faster travel and trade affect each of us?

Topics for speaking and writing. How the Coming of the Plane

[5] Los Angeles County Schools, *Using Short Films to Motivate English Activities* English Curriculum Monograph E-32. Office of the County Superintendent of Schools, Los Angeles 12, California, 1947. 31 pages, mimeographed.

Changed Our Lives. The Viewpoint of an African or Indian. My Vacation in 1960.. Air Travel and World Friendship.

Sample book list.

Bartlett, Hall, *Social Studies for the Air Age.* Macmillan, 1942. 169 pp. The effects of the air age on social institutions.

Bruno, Henry Arthur, *Wings Over America.* McBride, 1942. 333 pp. The origins, development, and successes of American aircraft.

Cohen, Rose N. (ed.), *Flying High.* Macmillan, 1942. 320 pp. Articles on history and implications to development of air power; for junior high school pupils.

Cross, Ethan Allen (ed.), *Wings for You.* Macmillan, 1942. 355 pp. Many viewpoints, literary and scientific, on problems of our air age.

Herzberg, Max, Paine, M. P., and Works, A. M., (eds.), *Happy Landings.* Houghton Mifflin, 1943. 321 pp. Reactions of well-known writers to air age.

Pendray, Edward, *Coming Age of Rocket Power.* Harpers, 1945. 244 pp. History of rocket power and forecast of developments.

STORY OF DR. JENNER. (11 minutes, John Nesbitt: "Passing Parade" Series). The English doctor's discovery of the use of vaccination for smallpox is greeted with derision by his colleagues and with hostility by his neighbors. To test the vaccine, the doctor inoculates a vaccinated child with smallpox virus and hides him away to observe the results, a triumph, of course.

Pre-showing questions. 1) Have you ever used the sulfa drugs or penicillin? 2) How did we receive news of their discovery? 3) Do you think mankind has always been grateful to medicine for its discoveries? 4) What are the conditions that encourage such discoveries?

Post-showing questions. 1) Why were the people distrustful? 2) Would we be less suspicious today? 3) How does the medical profession receive discoveries today? 4) What is the meaning of "scientific method" as applied to thinking? 5) How has education made us more willing to accept and even encourage change? 6) Why was the doctor willing to run the risks he did?

Topics for writing and speaking. What Makes a Hero? Everyday Heroes I Have Known. How Medicine Has Changed Our Lives. The New Medicines. What I Think of Superstition. Do We All Have Our Superstitions?

Sample book list

Baker, Rachel, *First Woman Doctor.* Messner, 1944. 246 pp. Story of battle of Elizabeth Blackwell in 1840's.

Basil, George C., *Test Tubes and Dragon Scales.* Winston, 1940. 316 pp. An American doctor's experiences in inland China.

Clapesattle, Helen, *Doctors Mayo.* University of Minnesota, 1941. 822 pp. Story of the Mayo Clinic.

Curie, Eve, *Madame Curie.* Garden City, 1937. 393 pp. Account of the discoverer of radium.

DeKruif, Paul, *Men Against Death.* Harcourt, Brace, 1932. 363 pp. Biographical sketches of notable medical figures.

DeKruif, Paul, *Microbe Hunters.* Harcourt, Brace, 1926. 363 pp. Stories of famous scientists who have helped mankind.

Flexner, J. T., *Doctors on Horseback.* Viking, 1937. 370 pp. Pioneers of American medicine.

The results of this Los Angeles study showed that most of the teachers used the teaching suggestions and found them valuable. Of the fifty evaluation sheets on the use of films. 42 indicated that the teachers were able to use the pre-showing questions. Of these, 32 considered that "the discussion made the experience of seeing the film more meaningful." Forty-eight evaluation sheets indicated that the post-showing questions were used; thirty-eight noted that the discussion after the film showing was as lively as it would have been from the students having read similar material.

One teacher wrote, "Students who do not ordinarly participate in discussion of literature took more interest in discussion of the film." "More reticent students entered into open forum discussion," another reported. A third stated, "The film brought more students into the discussion and proved lively and interesting." Several teachers observed that the slow student made a more complete response to films than he made to printed materials.

In twenty cases, the films were used to motivate formal speech activities. Speech activities included debates, speeches, forum discussions, reading reports, and round table talks. In nineteen of the cases, the suggested topics proved helpful.

On 36 of the evaluation sheets, teachers said that they used the film to motivate writing; on 35, they reported the topics to be helpful. The kinds of writing activities developed by the film showings were many and varied, thus indicating the potentialities of the use of films in stimulating student writing.

✓*Language Fundamentals*

The English teacher can obtain films that will stimulate the student to write; however, she is also interested in securing films that will help her in the teaching of spelling, usage, vocabulary, grammar, and punctuation, language skills that are tied up closely with student expression. Her examination of lists of films for English teachers reveals almost no films dealing with language skills and language fundamentals.

Edgar Dale in his *Audio-Visual Methods of Teaching*[6] does not offer much encouragement to producers who are contemplating the production of films on grammar. He believes that the unusual animation of a grammatical concept might be remembered and the grammar lesson itself ignored by the student. In the teaching of the difference between transitive and intransitive verbs, the drawing of arrows on the blackboard would show the direction of movement of the action simply and effectively. A motion picture on this subject might "become complicated and needlessly elaborate. The film might do the job, but would you choose a sledge--hammer in order to pound in a tack?" he concludes.

In spite of Dale's warning about grammar films, the English teacher is still greatly interested in securing a film that will help her in the presentation of fundamental language skills. She has discovered that *Spelling Is Easy,*[7] which presents to intermediate and junior high students the five rules for learning to spell, can be used to develop in the student an awareness of ways of learning to spell accurately.

6 Dale, Edgar, *Audio-Visual Methods in Teaching.* Dryden Press.
7 Coronet Instructional Films.

The Teaching of Literature

How can the film help in the teaching of literature in schools? The showing of *Master Will Shakespeare*[8] to a group of high school students made them feel that the Bard of Avon was a human being rather than something made of cardboard. Students reading Lincoln's speeches found them to have more meaning after they had seen *The Perfect Tribute.*[9]

The understanding of Shakespearean plays usually presents a problem to the student. How much more real the forum scene in *Julius Caesar* seems to him after he has seen it re-enacted in the film *Julius Caesar!*[10] Or if he is reading *Macbeth,* he can see a film of two scenes from the play, the murder of King Duncan (Act II, Scene 2) and the sleepwalking scene (Act V, Scene I).[11]

The enjoyment of the novel is enhanced by the showing of classroom films based on the novel. A freshman group in a Connecticut high school enjoyed seeing *David Copperfield, The Boy*[12] and *David Copperfield, The Man*[13] after having read the Dickens novel. "The film made the characters become alive," was one student comment. A showing of *A Tale of Two Cities* to a sophomore group in the same high school following the reading of the novel seemed to help students in their visualization but also brought out their critical comments. Among the other films available which might be used in conjunction with the reading of the book are *Captains Courageous, Adventures of Huckleberry Finn, The Man Without a Country, Mutiny on the Bounty,* and *Treasure Island.* Each of the titles mentioned in this teaching of literature section can be run within the time of a classroom period or less.

Some films may be used to add to the appreciation of the

8, 9 Teaching Film Custodians.
10, 11 British Information Services Films.
12, 13 Teaching Film Custodians.

backgrounds about which the author writes. *Rural England,*[14] which shows the English countryside in spring, brings to the classroom details that will make the reading of English works more vivid.

The study of biography can be enriched by the addition of films to the teaching plan. Films such as *The Story of Alfred Nobel,*[15] *The Story of Dr. Carver,*[16] and *The Story of Louis Pasteur,*[17] all offer possibilities for the discussion of character development so frequently used in biography units. Then, too, there is always the possibility that the film will stimulate the student to read a book about the person pictured in the film. A worthwhile outcome!

Study Habits

The student who needs assistance in his reading techniques presents a problem to the English teacher. Perhaps he and many others in his class need to read more efficiently. Such a film as *Speeding Your Reading,*[18] which presents ways to improve reading habits, might be used. *Improve Your Reading,*[19] designed to correct poor reading habits, might prove effective, also. The book itself may be the problem of the reader. How should he read it in order to get the most out of it? *How to Read a Book*[20] is designed to aid in the solution of this problem.

One of the many important duties of the language arts teacher is that of teaching the students in her classes how to study more efficiently. Some of the study techniques are in the area of the reading field which has already been discussed. *How To Study*[21] features the reading skills employed in skimming, rapid reading, and careful study along with the bugeting of study time and the location of reference material in the library and other sources. *Know Your Library*[22]

14, 15, 16 Teaching Film Custodians
17 New York University Film Library.
18 Teaching Aids Exchange, Modesto, California.
19 Coronet Instructional Films
21, 22 Coronet Instructional Films.

follows a student, who is preparing a report, through the library. As the film proceeds, the organization of a typical high school library unfolds, and the student learns the use of the card catalogue, the Dewey Decimal System, the placement of books on shelves, and the use of the encyclopedia, the *Reader's Guide* to *Periodical Literature,* and the vertical file. *We Discover the Dictionary,*[23] another useful film in study guidance, can be used in teaching dictionary skills in the intermediate grades. Its film narrative is centered about three children who are engaged in the writing of a letter. By the time that their work is completed, they have become familiar with the uses of the dictionary, including the use of guide words, finding the spelling of words, reading diacritical marks, and locating definitions.

Social Skills

Although it is really a school-wide teaching duty, the improvement of the manners of students has been looked upon as being a part of the English program. The English teacher realizes that the effective teaching of manners requires the use of all available devices. That is why she welcomes the appearance of films on this subject, for she realizes that in certain areas the films will add a convincing note to what has already been related in book and in speech.

The film *How Do You Do*[24] points out in an informal way that the basis of pleasant and easy social relationships is the knowledge of the proper forms of introduction and their usage. Then it shows the various kinds of introductions and explains why and how they are used. To attempt to find out how effective this film would be with students of low reading ability, one teacher showed it to a group of "non-readers." He found that these students understood almost all of the points made by the film. Another group of "non-readers" experienced difficulty in getting the same ideas from textbook material.

[23] Coronet Instructional Films.
[24] Young America Films.

One of the indications that the students watching the film observed it closely was the large number of suggestions and questions which they presented after the film showing.

To show what definite teaching points can be made in connection with the teaching of a film of this type, the following excerpt from the teacher's guide to *How Do You Do* is reproduced:

The action then turns to a committee meeting at Frank Norton's house where Frank performs a variety of introductions correctly and easily. The various points covered in this situation are:

1. Introduction of two persons of the same sex.
   Teaching points:
   (a) Address the older person first. ("Mother, Joan Woods.")
   (b) When two persons are approximately the same age, either name may be mentioned first, but out of deference a guest or person in a recognized position (such as a teacher) would be addressed first. ("Miss Cameron, my mother.")
2. Introduction of two persons of the opposite sex.
   Teaching points:
   (a) Address first the woman or girl when a man is being introduced to her. ("Miss Cameron, my father.")
   (b) In the introduction of an older man to a much younger girl the man's name may be mentioned first to show respect, but the introduction is still phrased so that the man is introduced to the girl. ("Father, I want to introduce you to Joan Woods.")

The introduction is but one of a number of the problems of the teen-ager that make excellent topics for the English classroom. For example, the English teacher could afford to spend one classroom period showing a film on table etiquette, *Dinner Party,*[25] and guiding a discussion of table manners after the showing. If the teen-agers are going to formal dances, *Junior Prom*[26] might prove to be a valuable educational experience for them. Every teen-ager has wondered at some time about the points presented in the film, such as: invitations, dress, preparation for party, corsages, meeting parents, greet-

[25], [26] Simmel-Meservey.

ing sponsors, use of programs, exchanging dances, refresh ments, leave-taking, after party supper, and farewells.

Another film which might stimulate a fruitful discussion is *You and Your Friends*,[27] which suggests that in order to have a friend you must be one. It shows the girl who breaks a date; the boy who criticizes another behind his back; and other kinds of behavior. The members of the film audience are asked to judge the different kinds of behavior as positive or negative.

The way to conduct a meeting is another problem that the English teacher must help the student to solve. Such parliamentary procedures as calling the meeting to order, reading of minutes, reports of committees, unfinished business, new business, and adjournment need to be discussed and practiced in the classroom. As an introduction to the subject or as a review, *Parliamentary Procedures*,[28] which presents the essentials of meeting conduct, would be effective.

Motion Picture Appreciation

Motion picture appreciation has become a part of the language arts program. English teachers and their national organization, The National Council of Teachers of English, along with other groups and individuals have long recognized that the theatrical film, like the novel or the play, is an art form that wields a great influence upon the child and the adult. The Council has published three monographs[29] dealing with various phases of the motion picture as related to the classroom. Dale's *How to Appreciate Motion Pictures*[30] and other volumes in the Payne Fund Series have served to awaken the teacher to the educational possibilities of the theatrical motion

[27] Association Films.

[28] Coronet Instructional Films.

[29] Lewin, William, *Photoplay Appreciation in American High Schools*, D. Appleton-Century Co., 1934.
Rand, Helen, and Lewis, Richard, *Film and School*. D. Appleton-Century Co., 1937
Child, Eleanor D., and Finch, Hardy R., *Producing School Movies*. National Council of Teachers of English Chicago, 1941.

[30] Dale, Edgar, *How to Appreciate Motion Pictures*. Macmillan Co., 1939.

picture. The late Mary Allan Abbott, William Lewin, Helen Rand Miller, Edgar Dale, Bettina Gunczy, Frederic Thrasher, and other individuals, with parent, teacher, civic, and religious groups have urged the study of motion pictures in the schools. Producers and their organizations have cooperated by furnishing materials that might aid in the development of this study.

What should be the aims for the teaching of motion picture appreciation in the English classroom? Edgar Dale believes that teachers should teach their pupils to discriminate and evaluate. In such an activity the teacher would help the student to develop "an awareness of the effects of movies on the individual"; "to select movies more thoughtfully"; and "to develop more varied and critical standards of viewing motion pictures."[31]

At Greenwich (Conn.) High School the aims for a unit on motion picture study included:[32]

"To make students more aware of the sociological, economic, and political aspects of the motion picture.

To aid the pupils in shopping for worthwhile programs.

To help the pupils to enjoy these programs to the greatest possible degree by extending their appreciation of the arts involved.

To improve the writing and speaking abilities of students with the motion picture as a center of interest.

To teach some of the skills involved in motion picture production.

To discuss some of the literary aspects of film programs."

What are some desirable activities that might be included in the teaching of motion picture appreciation? One of the essential parts of a successful appreciation unit or course is the actual seeing of motion pictures. This is a "must" for the teacher as well as the student, for how can a teacher discuss motion pictures with her students when she has seen only two

[31] Dale, Edgar, *Audio-Visual Methods in Teaching*. Dryden Press, 1946, p. 211.
[32] Finch, Hardy R., "Motion Picture Activities in the High School." *The English Journal*, XXIX, No. 6 (June, 1940), 466-467.

during the past year? In some phases of the discussion of motion pictures it may be necessary that the whole class attend the same showing. If the film is now on 16mm, it might be rented for showing in the classroom or in the auditorium. At other times, a small group might see one film; another group, a second film and still another, a third film. Then again, each individual might see a film or films of his own choice. With such a variety of possibilities for the seeing of films, students should have little difficulty in securing sufficient film seeing experience to use in the English class.

The Future?

What is the future of the film in the language arts program? The next ten years should show a great increase in the intelligent use of films and in the establishing of motion picture appreciation units by English teachers. The next decade should also show great increases in the number of educational films produced specifically for use in the English classroom.

CHAPTER XI

APPLICATIONS OF THE FILM IN VOCATIONAL ARTS

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The motion picture has a definite place and value as a teaching tool in all phases of the vocational arts. It can be of help in imparting information, in demonstrating and teaching skills, and in carrying out the guidance responsibilities in this subject-matter field. It can be of help in the shop, the kitchen, the laboratory or workroom, and in the classroom. It can help teach cookery, sewing, home design, child-care, interior decorating, manipulation of tools, and a thousand other things which must be taught and mastered in the many and complex phases of the vocational arts.

Generally speaking, the applications of the film in this subject-matter field fall into two broad categories—*information* and *skills*. On the one hand are certain facts, theories, processes, and bodies of information which must be learned by the student. Many of these are of such a nature that they can be taught and learned best through the medium of the motion picture. They may range from the theory of the vacuum tube in the electrical shop, to information on the frozen foods process, to occupational information on baking as a profession. The inherent teaching value of the motion picture makes a definite contribution in each case. On the other hand, are certain skills which must be mastered by the student in vocational arts, ranging from wood-turning to the operation of a complex

machine shop tool, and from the sewing of a simple seam to the cooking of a beef roast. In all aspects of the skills, the motion picture becomes a valuable and unfailing skilled demonstrator.

The presentation of a lesson whose objective is to teach a specific skill must be done by a demonstration of the selection, application, and use of the proper tools, each fully explained step by step to the finished, in order to show the student what skills the job calls for. A film prepared to give this demonstration will be of incalculable help; it will present the lesson clearly, will save time otherwise taken up in the preparation of an actual demonstration, and will always be the same for each class from month to month and from year to year. Furthermore, the film will provide a well-arranged demonstration which can be seen by all the class, a situation which does not always hold true for the actual shop and kitchen demonstration. Every instructor is familiar with the situation faced in a lesson on the lathe or drill press, where a skill is to be demonstrated, but where only a small number of students at any one time can see the operation clearly enough to follow the explanation. In such instances the value of the film is apparent.

Home Economics

The home economics curriculum today includes a wide range of sub-areas: home nursing, child-care, foods and nutrition, cooking, sewing, home management, personal grooming, and many others. In each of these areas, the film can make a great contribution to better teaching and learning.

There exist many films, for example, in the area of home nursing, each of them imparting certain information and demonstrating certain skills which the student is expected to learn. Among such films are *Bathing the Patient,*[1] *Feeding the Patient,*[2] and *Home Nursing—Special Procedures.*[3] These are but

[1], [2] U. S. Office of Education.
[3] Encyclopedia Britannica Films.

three of a great list of teaching films made especially for this subject.

In the related area of child-care, films are available to contribute to an understanding of a child's growth and psychology and the methods of caring for babies and young children. Such films as *Now I am Two*[4] and *Bathing the Infant*[5] are but two of the many titles which are available on this topic.

On the general topic of foods and nutrition, films are available under such titles as *Food and Growth,*[6] *Fundamentals of Diet,*[7] and *Precious Ingredient.*[8]

The home economics instructor finds a film such as *Meat and Romance*[9] extremely valuable in cooking classes. This film deals with the purchase and cooking of meat, its nutritive value, and skills in serving and carving meats. In addition there are a great many specific film lessons in cookery, such as *Principles of Home Canning,*[10] *Principles of Cooking,*[11] and *Principles of Baking.*[12] Such films as these discuss the theory involved in the lesson and demonstrate the skills required of the student.

Clothing classes benefit from a film such as *Personal Investment,*[13] showing the applications of skills in dressmaking and tailoring, or from *Threads of Fashion*[14] which deals with much the same topic. In addition to such general films on clothing problems, there are a number of films demonstrating specific skills in this area. *Sewing Simple Seams,*[15] for example, is one of a series of six teaching films, each one of which deals with and demonstrates certain fundamental skills in hand and machine sewing.

4 University of Wisconsin.
5, 6, 7 Encyclopedia Britannica Films.
8 Westinghouse.
9 National Live Stock Board.
10 Encyclopedia Britannica Films.
11 Encyclopedia Britannica Films.
12 Encyclopedia Britannica Films.
13 Hart, Schaffner & Marx.
14 Castle Films.
15 Young America Films.

In addition to teaching a knowledge of and skill in certain processes, the home economics instructor must help the student gain certain background information about products and processes, in order to make the student a better citizen and a better home-maker. *Jerry Pulls the Strings,*[16] for example, is a film which shows how coffee is grown, harvested, brought to this country, blended and sent to the nation's markets. *Tea From Nyasaland*[17] does much the same job for tea. Films exist in this area on almost every conceivable food and clothing product and the processes of their manufacture.

In the area of home management, the home economics instructor will gain substantial assistance from a film such as *Managing the Family Income,*[18] which shows how an ordinary family makes a plan for spending its income, and how it meets unexpected financial emergencies. Similarly, the instructor will find use for *Penny's Party,*[19] which shows how Penny planned and cooked a meal in order to determine for herself whether women have time for cooking at home, and for films like *Dinner Party*[20] and *Let's Give a Tea,*[21] which demonstrate and explain the planning which must go into the preparation and execution of these social affairs.

For some time, the home economics curriculum has assumed a great share of the school's responsibility for teaching certain information and habits relating to personal grooming. It is here that the instructor will find invaluable such films as *Fit and Fair,*[22] *Good Grooming*[23] (both on problems of grooming, for girls), and *The Story of Menstruation.*[24]

16 American Can Company.
17 Young America Films.
18 Household Finance Corporation.
19 Teaching Films Custodians.
20, 21 Simmel-Meservey.
22 YMCA Motion Picture Bureau.
23 Castle Films.
24 International Cellucotton Products Co.

Shop Courses

The whole area of shopwork is wide open for the use of teaching films—in woodwork, metal work, electricity, building trades, and all the others.

The instructor in woodworking classes has a wide range of films available for use in his classes, from a film such as *Essentials of Wood Turning*[25] to *Ripping and Cross-Cutting*.[26] In metal working classes, such films apply as *How to Form Aluminum*,[27] *Drilling and Tapping Cast Steel*,[28] *Pipe Fabrications With Jigs*,[29] and *Precision Gage Blocks*.[30] The film *Use and Care of Hand Files*[31] was produced for the wartime industrial training program, and is now available for school use. It explains the different kinds of files and their uses, how to hold a file correctly, what kind of a stroke to use on different kinds of work, and gives pointers on the care and cleaning of files. And for the machine shop teacher, *Basic Machines—The Lathe*[32] is but one of an extensive series of such films produced for the wartime training program and now available to schools

Courses in the electrical shop, both theory and practice, benefit from a great number of excellent films produced by government and industry. They range from *Elements of Electrical Circuits*[33] and *Vacuum Tubes*[34] to *Electronics at Work*.[35] Within the past year, films for this area have been produced to help students who expect to use their knowledge and skill as electrical workers in the home construction trade.

The automotive shop has available to it educational films ranging from *Keeping Your Car Fit*,[36] a film explaining the

[25] United World Films.
[26] U. S. Office of Education.
[27] U. S. Bureau of Mines.
[28], [29], [30] U. S. Office of Education.
[31] Jam Handy Organization.
[32] U. S. Office of Education.
[33], [34] Encyclopedia Britannica Films.
[35] Westinghouse.
[36] U. S. Office of Education.

way and the how of regular inspection and check-up, to *Ignition and Spark Plugs*,[37] an animated film explaining the theory and operation of the automobile's ignition system. Films exist for this area on every conceivable phase of the subject, from driver-training to mechanical knowledge and skill.

Similarly, the relatively new field of aviation training benefits from a carefully selected group of several dozen films chosen from the hundreds made and used in the wartime training program of the Army, Navy, and U. S. Office of Education. Such films range from theory of aircraft flight, to fundamentals of piloting, to the most complex phases of mechanical maintenance. Most of these are available from Castle Films, as part of the U. S. Office of Education's film program.

The shop instructor also has available to him a wide assortment of films dealing with the products and processes which form the background of information which the shop student must have. Films on every conceivable mineral product and every major industrial process stand ready to bring the world into the classroom. They range from *Aluminum: Mine to Metal*[38] to *Steel—A Symphony of Industry*.[39]

Classes in agriculture and farming have access to a long list of films made available by related industrial firms and by commercial producers, but more particularly by the U. S. Department of Agriculture. These range from *Harvesting Vegetables and Preparing Them for Market*,[40] to *There's More Than Timber in Trees*,[41] to *Reconditioning a Grain Drill*.[42]

Safety Training

Obviously, neither the home economics nor the shop instructor can afford to overlook the possibilities inherent in films for safety education which is a vital phase of all vocational

[37] Bray Pictures Corporation.
[38] U. S. Bureau of Mines.
[39] American Iron and Steel Institute.
[40] University of Iowa.
[41] U. S. Department of Agriculture.
[42] U. S. Office of Education.

arts classes, working as they are under conditions where accidents can happen if students are not careful. The films available for the safety education program range from *Safe Use of Tools,*[43] to *Safety In the Shop,*[44] to *Safety Begins at Home.*[45]

Vocational Guidance

In addition to imparting the knowledge and skills which are paramount to the vocational arts field, the instructor also has the very definite responsibility of providing for vocational guidance and orientation in his or her respective subject-matter area. Here, again, the film makes a powerful contribution to effective teaching and learning. In addition to a wide range of film subjects from a wide assortment of producers, there is available for this task the well known Vocational Guidance series, produced by Carl Mahnke Productions. This series includes such applicable titles as *Nursing, The Electrician, The Baking Industry, The Restaurant Operator, The Woodworker, Heating and Air Conditioning,* and many others pertinent to the vocational arts field. Each film briefly surveys the particular industry, the qualifications of its workers, the conditions of work, and the typical opportunities which exist for success.*

Conditions of Use

Not all vocational arts rooms are equipped adequately for the projection of motion pictures; in some cases, seating arrangements are difficult to work out, and in other cases darkening and acoustic conditions are difficult to control. In many schools this situation is met by providing special audio-visual laboratory rooms. However, the alert vocational arts instructor should let none of these difficulties or lacks stand in his or her way. The wartime training programs carried on in most

* For a further discussion of this topic, see Chapter 17 "Applications of the Film In Guidance.

43 Coronet Instructional Films.

44 U. S. Office of Education.

45 Young America Films.

of the large manufacturing plants clearly proved that films can be shown virtually "on the job." Where rooms or laboratories or workshops cannot be adequately darkened, the shop instructor can construct a portable "daylight" unit, which is nothing more than a long box with a permanent screen installed in it; wings around the screen shade the screen from objectionable room light. For, as long as the screen itself is in semi-darkness, a good screen image can be projected, irrespective of room conditions.

Lack of seating facilities need not become a mojor concern. Students will be interested in seeing the film and will adapt themselves to the condition very quickly. While it would be better if the room is equipped with chairs and tables, the lack of such facilities should not deter anyone from making a beginning in the use of the film as a valuable teaching aid.

It is important that the vocational arts instructor accept and follow the fundamental techniques of film use, as discussed by Dr. Wittich in Chapter 5. In vocational arts preview, preparation, proper presentation, and intelligent followup are just as important as in any other school area. Previewing the film enables the instructor to see whether the film covers the subject and the points which are to be taught in the lesson, and to see if it is on the learning level of the group that is to see it. During the preview, the instructor should note the teaching points of the film as they appear on the screen. From these points, prepare a list of questions which can be made the basis of a short introductory discussion before showing the film to the class. After showing the film, present the questions again. If the film is accompanied by a Teacher's Guide, as most school films are today, make thorough use of this Guide in the film lesson.

From this brief discussion, it should be apparent, even to the instructor who has not yet used teaching films, that the educational film can help all teachers do a better job of teaching

CHAPTER XII

APPLICATIONS OF THE FILM IN MUSIC EDUCATION

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Appreciation is the Goal

See and hear—Quite unlike the Victorian child, music is neither to be seen and not heard, nor to be heard and not seen. Music, for complete enjoyment, should be heard and seen. Without belaboring an argument, this premise is based on the common observation that although music is an auditory art, it becomes increasingly meaningful when its orgin is visible.

In a concert hall, that side of the auditorium fills first from which the hands of the concert pianist can be seen. Parades begin with live, marching bands. People enjoy seeing the performers. There is added pleasure from the complete experience.

Children, especially, are intrigued with "how the music is made." It is inherent interest in all things animated that provides an approach to a deeper appreciation of music itself. Note the aroused curiosity of a child when the piano tuner comes. He wants to see what makes the music. Appreciation is a complex response but its creation in the hearts of children motivates the wise educator today. To create intelligent and appreciative makers and consumers of music is his goal. To justify years of technical study for some remote disciplinary value is no longer valid. Music is important in the American school today because it helps the child discover himself through

what he can do, it brings meaning to his experience through rich associations, in a word, it helps him enjoy life.

Visualization of Music

Moods—The young child senses the mood of his mother's voice by associating the sound with accompanying facial expression. An angry look and a scolding voice soon become one, and a kindly look and a lullaby are one. Approaching objects become louder. Loud noises create fright. All of these child-experiences are his equipment for enjoying music. They form a reservoir of moods to be loosened by the skillful composer who predetermines through his musical patterns what the mood experiences shall be. As tools he uses tones that are loud and soft, fast and slow, long and short, simple and complex, high and low, rough and smooth. Within the architecture of an understandable form he builds a structure of tone which can have tremendous impact upon the individual. The aesthetic ecstasy which is possible has prompted the poets for generations to exclaim the mysterious power of music.

Background music—This brief statement of music's projection of human experience gives insight to the child's first contact with films. He hears a musical background to an entertainment picture. Those who recall the silent movies remember how empty the "sight" became without the "sound." Then came the old-time movie organist who faced precisely the same problem as the modern film composer. His was the task to complete the psychological experience with music. The crudness of the early days is now forgotten in the masterful virtuosity of the film composer.

A beginning in the use of films for developing music appreciation might well begin in creating awareness on the part of the young student for the film composer's art. Here are a few guiding principles which children can understand and evolve from their own experiences:

1. Film music must be synchronized with the action. The two should blend perfectly so that seeing and hearing are actually one experience.
2. Film music uses the memory of the listener to build dramatic climaxes. Themes recur to express the recurrence of characters and situations. The "insanity" theme in the motion picture *Spellbound* illustrates this principle.
3. Film music must be understandable. The simple tune whistled by a barefooted boy needs no explanation, neither does a complex orchestration accompanying the burning of Atlanta in *Gone with the Wind.* A complex musical score can be perfectly understandable when the picture itself is being well expressed.
4. Film music must be technically perfect. Although "perfection" is not of this world, its spirit dominates the technology of the film industry. High standards are usually achieved in tonal balance, intonation, timing, coherence, and faithful recording and reproduction.

Teacher Aids for Developing Appreciation of Film Music

Photoplay studies—The motion picture industry is gradually supplying useful aids to teachers. A series of pamphlets entitled *Photoplay Studies* was published from 1935 to 1940 by Educational and Recreational Guides, Inc. Although they may be out of print, library copies might be available for use with reissues of such films as *They Shall Have Music,* starring Jascha Heifetz, *Moonlight Sonata,* starring Ignace Jan Paderewski; and *The Great Victor Herbert,* starring Walter Connolly.

National Film Music Council—Under the direction of Grace Widney Mabee, founder-chairman, the National Film Music Council is now providing film music information to teachers. Through its *Film Music Notes* published bi-monthly from September through May (250 East 43rd Street, New

York City), teachers can gain current news on composers and their scores. This publication also critically reviews educational music films. An impartial board keeps a non-commercial point-of-view predominant. Of special value are printed copies of musical themes from outstanding pictures.

Music Educators National Conference—A source of current information and research is the Music Educators National Conference, 64 East Jackson Boulevard, Chicago. This organization has a standing committe on educational music films which makes periodical reports in the *Music Educators Journal.* Results of its studies are used to assist the motion picture industry in the selection of topics and the formulation of educational standards for films.

Teacher initiative—Inasmuch as students tend to accept the entertainment picture without reservation, the alert teacher will use it to supplement in-school experience. Here are a few suggestions to gain greater value from these films:

1. The teacher should know which films have outstanding musical scores, who composed them, and why they are good.
2. The teacher should have first-hand experience with these pictures. It is impossible to talk intelligently about a picture one has never seen.
3. Where music is used that has broad connotations, such as standard works, noted composers, national idiom, and the like, it can lead to more detailed study including classroom performances.
4. Students can profitably evolve their own standards of excellence from actual observation. Phonograph recordings of such film classics as *Kilping's Jungle Book* and *Warsaw Concerto* lend themselves to careful listening and study.

The purpose of this use of film music is to develop discriminating taste. Where schools are sensitive to their social obligations, this taste might be expressed to the industry in

such a manner that actual improvement in film scoring would result.

The Status of 16mm. Music Films in the Schools

A dearth of good music films—Aside from the occasional entertainment film with excellent music, students have seen practically nothing worthy of school time. The films designed especially for school use have been of almost uniformly poor quality. Under the able leadership of Helen C. Dill, of the University of California at Los Angeles, the Music Educators Conference has attempted to remedy the situation.

Study of equipment and film needs—In 1946 a questionnaire on "films and projector equipment" was sent to 160 leaders chosen carefully from the membership of the Music Educators National Conference on the bases of geographic distribution and teaching level. Eighty returns from thirty-one states gave the following information. Mrs. Dill's report cites these details on equipment:

> "The number of projectors available ranged (a) for towns and cities from "none", to 500 for a large metropolitan city; (b) for counties, from 15 projectors in a small town serving 5,000 children to 214 serving 110,000 children; (c) for states, from 50 projectors serving 25,000 children to 3,400 serving an ungiven number of children.
>
> "Sixty-six reports listed frequency of projector use as follows: 50 frequently, 13 occasionally, and 3 seldom.
>
> "Music films were used much less according to sixty-nine reporting when only 16 wrote "frequently," 31 "occasionally," 16 "seldom," and 6 "never." Of sixty-three reporting on where the projectors were used, 43 said in classrooms; 33 said in auditoriums; and 20 said in general assemblies.
>
> "Space had been left in the questionnaire for a list

of six 16 mm. music films found of value. From the reports of sixty persons only one film was found to be used in all six divisions of the conference, and that was the Erpi film on *Symphony Orchestra and its Choirs,* listed by 45 people. The next films in order of rank were *National Music Camp,* 17 listings; *Iturbi; Stephen Foster; Sound; Accoustics, Music of the Masters, Magic Strings,* and *Music in the Sky.*"

Future needs—Suggestions were solicited in the questionnaire to determine what types of films were most needed. These were carefully grouped into eleven catagories as follows:

1. Films for the teaching of fundamentals of music.
2. Films for teaching of technical skills such as playing of instruments, conducting, and singing.
3. Films for the teaching of understanding of world cultures, through native songs, dances, and instruments.
4. Biographies of famous musicians.
5. Masterpieces of music.
6. Operatic sequences.
7. Contemporary performing artists performing in their mediums.
8. Famous musical organizations.
9. How instruments have grown up (origins and manufacture.)
10. Music and human destiny (music in world movements).
11. Orchestral scores with themes marked.

Each person was asked to report which categories were "very important," "moderately important" and "unimportant." Points were assigned on the basis of three, two, and one, respectively. The following seven highest ranking topics were mentioned in order of importance:

6 votes each: Playing of Instruments
Understanding of World Culture Through Native Music

5 votes each: Masterpieces of Music
Famous musical Organizations
How Instruments are Made

4 votes each: Biographies of Musicians
Music and Human Destiny

Since nine reports did not check "Fundamentals of Music," its total was less than the others.

Gradually, motion picture producers are becoming active in the field of music education. At the time of writing, the Walt Disney Studios are in process of making a short subject with cartoon characters showing the origin and development of the instrumental families. An inspection of the story board shows that this subject will be done in the best Disney style with sufficient entertainment value to interest wide audiences. By use of clever illustration, this film will show the effect of length of vibrating medium upon pitch and how resonating chambers enhance tone quality.

A group of noted educators is undertaking the production of educational films, among them being one entitled "How to Play the Violin." This is designed to interest the young student in wanting to learn to play this instrument.

Young America Films is also in process of making several films on the fundamentals of melodic and rhythmic notation and how the scale is made. The latter will be at high-school level, the former for elementary children. These films are designed to use animation and live action to dramatize musical relationships which cannot be told as effectively in any other manner.

Teacher responsibility—It is understandable why more producers have not exploited the field of educational music films. The whole area calls for bold pioneering with no great profits to be gained and considerable losses to be risked. Teachers need not despair, because a most encouraging movement promises well of the future. Such remarkable results are being obtained in other educational fields that boards of education

and the public generally are lending financial and moral support to the use of visual and auditory aids. With adequate equipment and rooms, and a school administration becoming increasingly interested in films, a potential market for music films is being created. This will undoubtedly encourage producers to bring forth something worthwhile in the near future.

The ultimate destiny of music films will then rest with the wisdom of educators in the use of these materials. The following suggestions are made to insure continued support from those who would encourage a wise use of films for better music education.

Suggestions for Using Music Films

1. Preview every music film before showing.
2. Select films which fit the curriculum.
3. Schedule the presentation of films to do what no other medium can do as well at the time.
4. Be sure the film is adapted to the maturity of the viewer. A general guide is to use films whose vocabulary is common in the textbooks of his age group, and whose social situations and musical complexity are within his understanding
5. Anticipate the showing with classroom preparation.
6. Follow the showing with adequate discussion and a reshowing.
7. Let children discover for themselves what the film portrays. Running commentary from a teacher during a sound picture can be most annoying.
8. Encourage children to express what they have seen and heard. This can take many forms such as oral discussion, learning to sing or play a musical composition, reading about music, subscribing to a publication, buying a ticket and attending a concert, listening to selected musical programs on the radio, writing a critical review, and similar means.

9. Be sure the projection equipment is adequate. Amplifiers need a frequency range from 60 to 9,000 or 10,000 cycles for adequate reproduction of symphonic music. Room reverberation, illumination, volume, and the like are important. Ventilation is equally necessary if we are to consider the whole child.
10. Use music films with moderation. A new and inviting medium can cause neglect of other valuable educational experiences. In many ways, there is no audio-visual aid equal to seeing and hearing an actual musical performance or demonstration. And probably better than either is the actual singing and playing by the child. A film, to be of full value, should supplement and enrich the other activities of the child, not replace them with vicarious substitutes.
11. On occasion, show a musical film to a parent group to arouse further interest and support for the program. This, followed by a good student discussion can do much to stimulate encouragement.
12. Make full use of available materials. In a field so new and unexplored, the reader with an alert and inquiring mind, can keep abreast of the newest and best in music films. Enthusiasm for careful experimentation can do much to build a permanent place for the use of films in the schools.

CHAPTER XIII

APPLICATIONS OF THE FILM IN ART

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"Every child is born with the power to create; that power, if released early and developed wisely, may become for him the key to joy and wisdom and, possibly, self-realization. Whether he becomes an artist or not is immaterial."[1]

Before specific applications can be made to the film and its use in the teaching of art in the classroom, some conception of the present objectives to be accomplished by the teaching of art in schools must be understood.

In the early establishment of art courses in the schools of America, the paramount interest was to develop a talented and skilled artist in each pupil, regardless of the fact that he might or might not be interested in becoming an artist. Art in the classroom consisted of copying and imitating the skills and knowledges of the art teacher. Later, in correction of this, art teaching swung completely to the other extreme, and children were given complete freedom with no direction. This freedom became license and there was a wild floundering in a sea of ungoverned expression. Gradually the pendulum swung between these two extremes, and today teachers have come to realize that art, together with all other subject matter taught in school, has to do, first and foremost, with the building and growth of personality.

[1] *Course of Study in Art Education for Elementary and Secondray Schools*, Bulletin 41, Department of Public Instruction, Commonwealth of Pennsylvania. 1933.

Art now has turned its attention to the needs of the student and to the obtaining of experiences by which to develop in him a well-oriented citizen, ready to cope with his environment, to be aware of its resources and its potentionalities, to appreciate and enjoy beauty in the people and places around him, and to be sensitive to all of the different aspects of living. Our present art education is geared to make the student a more intelligent consumer, able to use discrimination in the selection of both practical and esthetically good home furnishings, personal clothing and possessions. Art expression now teaches him use of his leisure time in the development of interesting hobbies. It teaches him, too, that he cannot escape within an "ivory tower" but that it is his responsibility to be aware of the ugliness and short-comings which take away from him and others the quality and quantity of esthetic experiences. He becomes socially conscious of cities where beauty, sunshine, fresh air, and chances for pleasant living are denied; of factories which snuff out the health and happiness of the workers; living conditions which stifle the development of body, intellect, and spirit of the people existing in these surroundings. "The arts, instead of leading to escape from life, should help to make living an event and an adventure, and the individual who employs the arts in this way will become both enriched and enriching; he will give to society in proportion as he takes."[2]

We see then that the trend in art education follows the pattern of our general educational plan of today, having for its chief aim the development of a well-integrated personality. Hand in hand with this, too, go the important objectives of satisfying the individual abilities, skills and inclinations, and of providing guidance and training for those who have exceptional talent.

[2] *The Visual Arts in General Education.* A Report of the Committee on the Function of Art in General Education for the Commission on Secondary School Curriculum. D. Appleton-Century Company, 1940.

Starting then with these premises, we turn to the use of the film as an aid to the accomplishment of this plan. Since the approach will be somewhat different in the three divisions, primary, upper elementary, and high school, each of these sections will be dealt with separately. However, in the case of the primary and upper elementary grades, many of the films can be used in either group, depending on the adaptation made by the teacher to the grade level with which she is dealing.

Primary

In the primary grades, the chief aim of art education is to develop and encourage the creative, imaginative spirit of the child. Self-discovery and growth can be developed by means of varied experiences in design, color, illustration and other activities which develop skills and interests. The best expression of art at this age level will come from the children's own interests, experiences, and impressions. For instance, the film, *Tommy's Day,* which serves so many needs in the curriculum at the primary level, can be used in the development of an excellent health project in the art work. Attention should be called to Tommy's pleasant bedroom which can be used to begin the development of interest in home furnishings and the feeling of "his" room as a personal possession; Tommy's happy relationship with his parents, his sister, his friends and his teacher will begin to develop social consciousness, correct food habits, health habits, and personal appearance. Illustrations of these can be worked out in the art classes. Experiences in the film which lie close to the child's own life will prove of great value at this age level.

Films such as *Shep The Farm Dog, Animals of the Zoo, Black Bear Twins, Robin Redbreast, The Ruby Throated Hummingbird, Birds of the Countryside,* and other animal and bird films can be used with great profit and enjoyment in the primary grades. Not only will these films serve as valuable

aids in the teaching of reading and social studies, but in the teaching of art also. Modeling, constructing, drawing or cutting animals and objects seen in the film can be follow-up activities. Dramatization of the story can follow. The film, *Care of Pets,* leads to an interesting art project on *Being Kind to Animals.*

In the primary grades, topics familiar to children of this age level pertain to the home, school and community. His art expression will therefore be as wide and variable as his experiences in these surroundings. They will concern his interest in modes of travel, amusement, past-times, work, etc. Films such as *Food Store, Bus Driver, The Mailman,* and *Fireman,* fit well into art classes at this level.

The film, *Here Comes the Circus,* has been used to work out a unit along these lines. The drawing of simple figures by line or mass, the ability to mix certain colors of paint to get other colors, to use free expression in drawing to tell a short, connected story can be developed around the unit, *The Circus,* which always holds a keen interest for children.

By the time the child has reached the latter part of the second grade, even though his interests are still closely related to home, school and community life, he shows a broader understanding of the activities of people outside his own community. Films such as *Eskimo Children, Navajo Children, Pueblo Dwellers,* and *Children of Holland,* as well as other films of children in other lands, can be used with great value in art projects. Unfortunately too much emphasis has been placed on the wooden shoes of Holland, the Indian war dances, the Eskimo igloos, etc., so that children think of certain stereotyped phases when these subjects arrive. The well-rounded experiences of the children in the films mentioned above help to give a complete picture of living conditions as a whole to the children viewing them.

When the third grade is reached, the child begins to show in his art work a better manipulative control of materials and

tools. In other words, his cows will now have to have four legs, and his houses must have chimneys. He begins to show more realism and detail in his representations. Large frieze work will be very satisfying to him at this age level.

Films which help to illustrate poems and stories in the reading lesson will be found interesting. As an example, the film, *Play in the Snow,* will add much to the poem "Stopping by the Woods on a Snowy Evening," by Robert Frost. To our children here in the South, the film, *Play in the Snow,* is a wonderful and stimulating experience. This will be better understood by the confession of one of our primary teachers who said that she took her class to a pear tree when the petals began to fall in order that she could give her pupils some idea of how the ground looked when it was covered with snow. For holidays and seasonal activities, such films as *Spring is Here, Adventures of Bunny Rabbit, Merry Christmas,* and *Colonial Children* will be found very useful.

At the end of his four years of experience in the primary grades, through the teacher's wise and careful guidance and with the use of supplementary aids, among which the moving picture will be found to be of great assistance, the child now is able in his art work to express ideas, to work with different media—clay, crayons, chalk, soft wood tools, and paint, to express creative ideas, to select certain classroom and home furnishings, to design cooperatively friezes and other large forms of art, to use three values of color, to draw simple figures, and to do simple lettering.

Upper Elementary Grades

In the upper elementary grades, these being the fourth through the eighth, as differentiated from the first four years of school life with which we have dealt as the primary grades, integration with other subject matter of the curriculum can be closely related. In some school systems in which the core cur-

riculum functions, all subject matter taught in the classroom is built around the "core" subjects.

Suggestions for art work and related films have been found in the very comprehensive course of study in art issued by the Tulsa (Oklahoma) Public Schools entitled *Elementary Schools Art Program for Grades* 4-5-6. In the fourth grade, following the theme, *The Great Outdoors,* science units such as *Our Lives Enriched Through the Study of Plant Life,* suggest the profitable use in art work of the film cycle on plant life, *Roots of Plants, Leaves, Plant Growth,* and *Seed Dispersal.* Possible areas of exploration can be collecting specimen, pictures of plants, considering balance and form in nature, flower arrangements and the different techniques of background. Problems to be worked out can be nature drawings of trees, flowers, leaves, and seed pods, block printing of greeting cards and book covers, tempora crafts, decorating of paper plates, finger printing, painting and etching of tea tiles, stenciling of napkins, luncheon cloths and table runners. Another science theme in which films will prove of value in art work is one entitled *How We Enjoy Our Outdoor Friends Through Arts and Crafts.* Films such as *Gray Squirrel, Robin Redbreast, Birds of the Woodlands, Birds of the Dooryard, Camouflage in Nature by Pattern Matching, Camouflage in Nature by Form and Color Matching,* and *How Nature Protects Animals,* can be used.

Activities suggested follow along the lines of the study of helpful animals, harmful animals, animals which make good pets, bird enemies, bird houses. Possible areas of exploration which suggest themselves are demonstrations in principles of design, color and perspective, the obtaining of characteristic sizes, shapes and color. Problems to be worked out can be nature drawings of birds, butterflies, insects and animals, clay modeling of the same, soap carving, crayon etchings, wall hangings, stencils, and in woodworking, toys, garden sticks, book ends, and bird houses.

In the social studies field, the theme, *Travel and Messages,* suggest units such as *Means by Which People Have Traveled.* Films on transportation, on trains, boats, airplanes and the primitive methods of travel can be used in such work. The following films will be found of use in this unit, *Boats, Passenger Train, Airplane Trip,* and *Development of Transportation.* Along this line, another subject suggested is *Means by Which People Have Sent Messages.* Films on communication will stimulate art work in this field. As an introduction to this study, the film, *Development of Communication, The Mailman,* and *A Letter to Grandmother,* can be used. An area of exploration in these studies which can well be stressed is understanding of perspective and the appreciation of design and color.

One of the most important themes to be carried out in all art work in these intermediate grades is the study of children of other lands. In a time when people are earnestly working toward world understanding, one of the greatest accomplishments of our schools today is to develop "world-minded" citizens. In one of the large homes in Switzerland in which refugee children are sheltered and nursed back to health, there is a motto on the wall which reads, "If All Children Would Reach Out Their Hands To Each Other." It lies within the power of our schools to teach our children "to reach out their hands" in understanding, and art can serve as one of the greatest forces in teaching this. Such work can hardly be taught without the use of films in order that, vicariously, our children can live for a space of time with their world neighbors, learn their living habits, their work, their play, their hobbies, their manner of dress, and their home relationships.

To introduce this work, the *Tulsa Course of Study on Art In Grades 4-5-6* suggests such a title as *Interesting Things We Find When We Open Distant Doorways.* The films, *Children of Holland, Children of Switzerland, Children of China, Mexican Children,* and *Children of Poland* should all be used in

this field. In dealing with the subject of our neighbors to the South, the films, *Good Neighbor Family, Lima Family,* and the color films, *The Amazon Awakens, Tehuantepec, Patzcuaro,* and *Cuernavaca* will be found valuable. Suggested activities following these can be a study of folk games, festival days, sports, and pastoral scenes. Several years ago an interesting project entitled *Sports Around the World* was worked out by our art department in the New Orleans schools. The departmental grades of a chosen number of schools were assigned a different country. Customs, sports, clothing were studied by means of wide reading and viewing of films and other supplementary aids. Art classes dressed dolls in the sports costumes of the various countries and built suitable backgrounds to fit in the outdoor sports scene. All of this was assembled in one place and classes were brought to this exhibit to study it.

While world understanding is being taught in the art classes, direct application of art principles can be applied. Groups can participate in the construction of dioramas to develop an understanding of perspective and proportion; painting can be either a formal treatment of peasant designs and color, or free expression; pottery making can be studied; crafts of the various countries such as wood carving, silver work, making of tiles and the dressing of dolls; industries can be looked into. Games and sports we have already mentioned.

As an integrated study of art, social studies, and science, a unit on flowers, animals and fowls of other lands is suggested. Grains and foods may be included in this. Comparison of the homes of children of other land and the influence which these have had on American architecture can be studied. Suggested areas of exploration for all this are kinds of designs: abstract, conventional, naturalistics, and geometric. Group participation can be along the lines of friezes, borders, dioramas, and picture collections.

In the seventh and eighth grades, films which teach ex-

periences through craft activities will be found of value. Such films as *Leather Work, Plastic Art, Plastics,* and *Pottery Making* can be used. Students at this age level are about to enter high school where special skills and techniques will be studied carefully and special talents of the students developed.

At this level also social consciousness, which has been nurtured throughout the entire school period, should be especially emphasized. Art work can stress the planning of housing projects for better living. Films such as *Problems of Housing* and *Building America's Houses,* which are used in the social studies classes, can be used also to stimulate art work along this line. Problems within the student's own experience will bring this home to him with greater weight. Films such as *The River* and *The City* will be found worthwhile not only because attention is called to the issues involved in the films themselves, but also because of the excellent photography which so realistically portrays the ominous rush of a mighty river and the whirling drive of a busy city. Students will feel the motion of life in these pictures.

High School

By the time the student has reached high school, he should have acquired the general principles of art. He is now ready to develop the skill in which he shows most interest and aptitude. Art in high school should move along four general lines—the development of an appreciation of art, the development of worthy use of leisure time, and the fostering of the skills which will serve the student avocationally and prevocationally, if he has decided to make this his life work. Again the films showing special techniques in the art field will be found valuable—*Metal Craft, Furniture Craftsmen,* and *Modern Lithographer.*

Any film which will encourage art appreciation, such as *Titian, Rembrandt, Hand Industries of Mexico,* and *Churches and Cathedrals,* can well be used in high school. All students, in spite of the fact that they may not have found any special

aptitudes or skills in the field of art, can develop an enjoyment of the good and the beautiful. Films which show the development of hobbies for leisure time entertainment such as puppet-making, costume designing, stage settings and photography, will prove of profit and enjoyment to the students.

It is to be remembered that many students will not reach high school level but because of financial conditions or lack of incentive will leave school at the end of the eighth or ninth grades. For these students some appreciation of art and some skills should be developed before they leave school. Films which emphasize art appreciation, interest in the improvement and beautifying of the community, and films showing certain techniques which will prove avocationally and possibly vocationally profitable to them should be used in the upper elementary grades. Many of the films suggested for the high school can be "stepped-down" to the upper elementary level according to the needs of the teacher of art.

So far in this discussion of the film in relation to art education, no mention has been made of the production of school-made motion pictures. Several years ago a very beautiful color film called *The Birth of a Pageant* was made in one of our local high schools. The film, made entirely by faculty members and students, depicts the production of a Pan-American pageant, from the script writing through the research in the library, the making of the costumes, the rehearsing of the dancing and all other details involved, to the final presentation. Practically every department in the school cooperated in producing this pageant and the film tells the whole story of the contribution each department made.

Not only was a keen interest in photography developed in the students who participated in the making of this motion picture but the part which art plays in a school project, along with the other subject matter fields, was brought home forcibly to all those viewing the film. Motion pictures of the development of art projects such as pottery making, costume designing,

and building of stage settings can be made by students and teachers.

Mention should also be made of the value of some of the pictures shown in the commercial moving picture theaters. Many teachers recommend especially to their students the feature pictures of the Walt Disney studios, with their spectacular color effects. Moving pictures with historical verity, such as *Henry V,* prove valuable to art students for the costuming, the stage settings, and the traditional background. It is well for the art teacher to be continually informed as to the motion pictures being shown in local theaters in order that she may interest her students in attending, if she thinks the pictures carry interesting and worthwhile information.

In the use of films in art education it is of great importance to fully realize that the art work produced from film experience is by no means copying what the students have seen in the film. Quite to the contrary, the film under the guidance of a good teacher will stimulate a child's imagination and creative thinking and cause him to add to his work many subtleties in understanding which are not shown in the film but are *implied.*

An outstanding school principal who has worked closely with her art teacher in the use of films tells of the showing of a film concerning factories and industries in an art class in the intermediate grades. The film content covered not only the assembly line but showed men working separately, each at his own routine. In the drawings which developed, several children drew pictures which showed a worker talking to his foreman and four or five workers eating lunch together. Later a girl said that she wondered what the workers' family life was like and what they did for a good time. She was thinking of drawing something of their home life. None of these scenes occurred in the film, but the children's creative thinking supplied the human relationships implied. This assuredly was not copying.

Another child in the sixth grade burst forth with several drawings which showed a latent talent hitherto entirely undisclosed. After seeing a series of films on factories, turbines, and waterpower, he came to the art teacher to ask how he could get into his drawings the sound of the machines.

What is the need in the way of films in art education? At the present time the number of films suitable to be used in art classes is limited. For the most part, films have to be adapted to meet the needs. Many of the films produced for other fields in the school curriculum form an excellent background for art work, but more motion pictures showing the teaching of specific art skills should be made. Films which will develop a deeper appreciation of art are greatly needed also. In fact, the entire field of motion pictures for use in art education at the present time seems to have great limitations. It is hoped that films to stimulate individual art activities, to give a deeper understanding and appreciation of art principles, and to teach specific art skills will soon be produced.

Listing of Films and their Sources Included in This Chapter

ENCYCLOPAEDIA BRITANNICA FILMS—20 N. Wacker Drive, Chicago 6, Ill.

Shep, The Farm Dog
Animals of the Zoo.
Black Bear Twins.
Robin Redbreast
Care of Pets.
Food Store.
Bus Driver.
The Mailman.
Fireman
Eskimo Children.
Navajo Children.

Pueblo Dwellers.
Children of Holland.
Play in the Snow.
Adventures of Bunny Rabbit.
Colonial Children.
Roots of Plants.
Leaves.
Plant Growth
Seed Dispersal
Gray Squirrel.
How Nature Protects Animals.
Boats
Passenger Train.
Airplane Trip.
Development of Transportation.
Development of Communication.
The Mailman.
Children of Switzerland.
Children of China.
Mexican Children.
Plastic Art.
Pottery Making.
Problems of Housing.
Building America's Houses.
Metal Craft.
Furniture Craftsmen.
Modern Lithographer.

CASTLE FILMS—30 Rockefeller Plaza, New York City 20.
Here Comes the Circus.
Merry Christmas.
The River.

YOUNG AMERICA FILMS—18 E. 41st Street, New York City 17.
Tommy's Day.
Plastics.

CORONET INSTRUCTIONAL FILMS—Chicago, Illinois.
The Ruby Throated Hummingbird.
Birds of the Countryside.
Birds of the Woodlands.
Birds of the Dooryard.
Camouflage in Nature by Pattern Matching.
Camouflage in Nature by Form and Color Matching.
A Letter to Grandmother.
Hand Industries of Mexico.

BELL & HOWELL—1801 Larchmont Avenue, Chicago 13.
Spring Is Here.

OFFICE OF INTER-AMERICAN AFFAIRS.
Good Neighbor Family.
Lima Family.
The Amazon Awakens.
Tehuantepec.
Patzcuaro.
Cuernavaca

BRAY PICTURES CORPORATION—729 Seventh Avenue, New York City 19
Leather Work.

UNITED STATES GOVERNMENT.
The City.

INTERNATIONAL THEATRICAL AND TELEVISION CORPORATION—25 W. 45th Street, New York City 19.
Churches and Cathedrals.

CHILDREN'S PRODUCTIONS—Palo Alto, California.
Titian

COLLEGE FILM CENTER—84 E. Randolph Street, Chicago, Illinois
Rembrandt

INTERNATIONAL FILM FOUNDATION, INC.—1600 Broadway, Suite 1000, New York.
Children of Poland

CHAPTER XIV

APPLICATIONS OF THE FILM IN BUSINESS EDUCATION

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This discussion is limited to motion pictures, with and without sound. This is not done with any idea that other visual aids are not important, but merely for the purpose of focusing attention on this one type in order to clarify its significance as completely as possible.

A considerable amount of research and experimentation has been carried on by business educators in the use of visual aids for the improvement of instruction in courses offered in business education curricula. A continuous monthly information service has been provided in the columns of the *Journal of Business Education* for several years under the editorship of Clifford Ettinger. Those familiar with this service know that annotated bibliographies have been provided which enable the new student of visual aids in business education to select those publications which are likely to be most profitable to him. In addition, films are reviewed as they are released with an indication of the classes in which they are likely to be most useful. During January and February, 1947, a classified list of visual aids was published, giving type, distributor, and cost. Similarly, the *Balance Sheet* now conducts a page devoted to the summarization of films in business education together with recommendations for their use.

Ettinger's[1] doctoral thesis, *Projected Visual Aids in Business Education,* has been published by the National Association of Business Teacher-Training Institutions. This study includes evaluations of existing visual aids in business education, through 1944, and an excellent bibliography quite completely annotated.

Gibson,[2] also, has been one of the pioneers in the use of visual and auditory aids in business education, and like Ettinger, wrote his doctoral thesis in this field. During 1944-1945, he conducted a department of Audio-visual Business Education in the *Business Education World.* At Highlands University, Gibson has developed a Business Education Audio-Visual Evaluation Sheet[3] that business teachers will find useful in recording their own evaluations of films.

A recent book, *The Preparation and Use of Visual Aids*[4] by Haas and Packer has made a significant contribution to the technique of using and constructing visual aids. This is not limited to the field of business education nor to films, but it is of particular interest to teachers of business education since it is directed primarily toward on-the-job training and as such, has direct application in vocational business education classes. Both of the authors have had a large part of their teaching experience in business education, chiefly in education for the distributive occupations. Hence many of the illustrations are taken from that field.

Films can be used in business education for a variety of purposes, the exact purpose depending upon the area of business education in which the instruction is to be done and the type of learning involved. Within the area known as basic

1 Clifford Ettinger, *Projected Visual Aids in Bussiness Education,* The National Association of Business Teacher-Training Institutions, 1946.

2 E. Dana Gibson, *Communication Sound Slide Scripts.* New York University, Ed.D., 1944

3 E. Dana Gibson, "A Miniuum Audio Visual Program for Business Education Department." *The Balance Sheet,* October, 1946, p. 64.

4 Kenneth B. Haas and Harry Q. Packer, *The Preparation and Use of Visual Aids.* New York: Prentice-Hall, Inc., 1946.

business education—the business education designed to assist all students in becoming well adjusted to the business aspects of life—two types of learning are involved. The first concerns the business and economic information essential to satisfactory adjustment to economic society; the second, the business skills needed by every citizen in his daily business life.

A considerable number of films, both sound and silent, have been developed in the former area. *The Search for Security, Now for Tomorrow,* in the field of insurance; *The Work of the Stock Exchange, The Voice of the City* (Telephone), in the field of public and business services; *The Story of Money* and *Know Your Money; Property Taxation; Our Children's Money*—are examples of the types of films available. Examination of the lists of titles of films in this area reveals a great number of places where films could be effectively used, but where, as yet, none have been produced. Little to nothing has been done in the field of employer-employee relations; in taxation; in law, especially as it relates to the individual. Obviously, great care must be taken in the construction of such films to avoid propagandizing for a particular concept. It must be equally obvious, however, that boys and girls brought up in Fairmount, Illinois, in Gatlinburg, Tennessee, in New York City, in Los Angeles, who have never been any where else, will have difficulty in understanding from the printed word and their limited experiences alone, the character and the significance of the business and economic framework of life in the United States and the obligations of the individual in it.

The second phase of basic business education—the personal-use business skills needed by every individual—has been less well covered. *A New Voice for Mr. X* (telephone) and *Managing the Family Budget* are two pertinent films. A new series, *Getting Your Money's Worth,* is a beginning in the area of educating the consumer in buying techniques. *Fred Meets a Bank* presents the functions of the savings bank. A good many useful "how to" films could be developed. How to

travel—train, ship, airplane, including the reading of the time table, the types of services and their cost. How to rent a house; how to buy a house; how to keep personal accounts; how to use telegraphic service; how to buy life insurance; how to write a letter of application; how to order goods by mail—these are a few of the types of films that would aid in the development of personal-use business skills on all levels.

Within that part of business education known as vocational business education, three major types of education can make effective use of motion pictures—guidance, introduction to and integration of learning in each of the four major areas of vocational business education, and presentation and development of specific skills within each of those major areas. Common to all vocational business education is the need for occupational information on the basis of which students can select business occupations for which to prepare themselves. Two sound motion pictures have been released which serve this purpose—*I Want to Be a Secretary* and *Bookkeeping and Accounting. Banking as a Career, Clerical Work as a Career,* and *Retail Merchandising as a Career* are silent filmstrips and *We Choose Retailing* is a sound filmstrip—all of which help to present this needed occupational information. A good deal more can be done. For example, "Retailing" seems to be too large a field. In any one department store there are many different kinds of jobs. A large part of the nation's business is done in small retail stores. Food stores, restaurants, gift shops, stationery shops, newsstands, filling stations, men's and women's clothing stores, are all "retailing" activities, but each requires certain specialized abilities and aptitudes and, while each may be subject to the same general principles of small shop operation, each has its own values and risks to the person going into that type of business. Similarly, the term "clerical" occupation will cover a multitude of jobs from receptionist to shipping clerk, with the highly specialized chief clerk in the stock transfer department of a large metropolitan bank in-

cluded. A general motion picture, *Do You Want to Be a Clerk?* will not afford adequate guidance information for this highly varied occupational area.

Films within this category should be specific and realistic. It has long been a problem of guidance to secure realistic presentations of occupations—unglamorized. Amusement films have done much to overglamorize the job of secretary. Films should show the kinds of work to be done, the kinds of persons, generally speaking, who can do this kind of work, the average salaries—entering and terminating—the lines of advancement, and the probabilities for such advancement, together with the additional work or study or both needed to be prepared for the advancement. When considering abilities needed for particular jobs, the personalities suited to them should not be neglected. Films can be used to present these important matters in ways that other activities within the classroom cannot. Obviously, such guidance films are parts only of a supporting guidance program in business education. Having learned of what jobs consist and what is required to perform them, learners need to know their own relationship to those occupations. Do they have the potentialities for success in these jobs? Films can serve as a useful tool in providing needed guidance information; they cannot provide the tool for studying the individual student.

The solution of the problems of the development of desirable attitudes and specific behavior in securing and in holding jobs in business can also be aided by the use of motion pictures. The film, *How to Get a Job,* makes a contribution here. All teachers in business education these days are beset by employers who say, "Can't you do something to get the young people who apply to us to make themselves look better? Must they have such bad manners?" Some time ago a series of car cards was displayed in the New York subways: a pair of pictures, one labeled Do This; the other, Don't Do This. The topic of the series was interior decoration, but the teach-

ing principle is applicable to anything else. It is this: the sharp contrast between the good and the poor objectively drives home the advantages of the good—without further comment. People usually do not know just how they look, nor how their behavior affects others. They need to be shown. No student in a business education classroom in the country, high school or college, probably deliberately sets out to look as bad as he can or to be as rude as possible. Every one of them will admit that he should look his best when applying for a job. But opinions differ as to what constitutes looking one's best. Every one admits freely that he should be courteous. But what is specific courtesy in a working situation? Motion pictures that show the rights and the wrongs, the "does" and the "don'ts" and "why" will be definitely helpful. They are objective; they can be accompanied by self-rating scales which the student does not need to show to any one else. When this rating is followed by a later showing of the film and a re-rating, the student demonstrates to himself his own improvement. The use of motion pictures for this type of instruction prevents it from degenerating into personalities. Students are inclined to regard the teacher's more adult point of view on these matters as being merely carpingly critical and to be correspondingly discounted.

Films to be used for introduction training and later integration of it in particular business occupations may show a day's work in the occupation involved: the secretary's day, the shipping clerk's day, the salesperson's day, the shopkeeper's day and so on. This type of film would differ from the guidance film chiefly in the fact that the assumption is that occupational choice has been made. It is conceivable, however, that one film could be used for both purposes. In this instance the purpose is to show students what they are to be like when they are on the job, what they will probably have to do and how they do it. Such a film is *The Duties of the Secretary,* recently released. This film runs about twenty-five minutes and shows what the trained secretary does on the job. Shown to a

class just beginning secretarial training, it will provide direction to the learning involved in becoming a secretary. Shown during the training, it will help to redefine purposes; and shown at the end, it will aid in integrating the learning preparatory to actually entering the job. Additional elements of the job may be segregated for treatment by motion picture. *The Secretary Takes Dictation* and *The Secretary Transcribes* are two motion pictures that are good illustrations of this type. They show these two duties of the secretary as integrated activities, but separated from other duties, such as those of receptionist, for example. They can be shown when students begin taking notes and transcribing them on the typewriter in class. Many young persons, in high school particularly, have only the most hazy idea of how, exactly, to do the various things that comprise effective transcription. These two films can be shown again in secretarial practice courses as check-up on how well students have succeeded in integrating their own shorthand and typewriting into ability to take dictation and transcribe it under job, not class, conditions.

Other types of secretarial training and clerical training films are needed to assist in the development of particularized techniques. For example, typewriter desks in most high schools are small tables—quite unlike the desks that secretaries must eventually learn to use. Films showing effective secretarial desk systems, followed with some practice in the secretarial practice room with a typical secretarial desk would aid materially in assisting the student to make a more rapid adjustment to the first job.

Motion pictures can also be utilized to improve learning in filing. The idea of the files as the memory of business does not seem to occur to most students of filing—it is frequently regarded as a tiresome detail, an attitude which is rather consistently carried over into the work of the office. A film demonstrating how files do operate as the memory of business, together with various types of equipment and supplies for va-

rious purposes would help to establish in the learner's mind the importance of the function performed by filing. This, too should be supported by specific films showing precise filing techniques—the operation of a perpetual inventory system, of personnel files, for example, as well as of various types of correspondence files.

One difficulty that practically all business education departments have struggled with over the years is how to acquaint students with various types of office machines. Typically, the high school has typewriters, a mimeograph, usually in the principal's office, and on which the work of the school is done, and an adding machine, also located in the principal's office. With motion pictures, short, specifice, and sufficiently detailed acquaintance with all types of frequently used office machines is possible. These films also would serve as supporting instructional material for the school sufficiently fortunate to have adequate equipment.

An illustration of a type of needed instructional film is found in the operation, changing a typewriter ribbon. Every teacher of typewriting knows that learning can be expedited at least fifty percent if the teacher has a demonstration typewriter by means of which every operation to be learned can be demonstrated. But teachers are also aware that even this effective teaching aid has its limitations. The matter of changing typewriter ribbons is an example of those limitations. Probably every teacher of typewriting dreads the teaching of this technique, because with the best attention and the most minutely analyzed and organized steps of procedure, at least one student will succeed in getting the ribbon on wrong, and the typewriter is thus thrown out of adjustment—sometimes seriously. This results, in most instances, from the fact that all students cannot see equally well the instructor's demonstration and from the fact that the instructor, once the demonstration has been made, cannot be simultaneously at forty different typewriters to supervise the student's application of his interpretation of

the demonstration. Eleanor Skimin[5] has outlined a job breakdown for changing the ribbon on an Underwood typewriter, with a supporting breakdown for other makes of typewriters. A motion picture of this would show students just what they are to do—every operation would be clearly and equally discernible to all. Then the instructor could direct students to go through the motions of the operation to be sure that each step is understood. After this, the film would be shown again to make certain that any obscure points have been clarified and to emphasize all points, so that immediately following this showing, the students can proceed at once to the ribbon changing. A technique similar to this was successfully employed with the two films *Basic Typewriting Technique* and *Advanced Typewriting—Shortcuts* in the typewriting classes in which WAVES were trained at Northampton during the war.[6]

Motion pictures can do much to improve learning in bookkeeping: first, a picture to show the functions of accounting as a tool of management, not simply a recording operation; then films that can be used in the early sessions of a course in bookkeeping, each designed for a specific purpose, such as the development of a basic accounting vocabulary—assets, liabilities, capital, debits, credits. Some helpful film strips have been developed for this type of instruction.

Motion pictures can contribute much to the effectiveness of instruction in distributive education, especially in the smaller schools where it is difficult to provide students with a variety of experience. Films showing characteristics of the various jobs in the field of distribution, previously mentioned, should be supported by others giving precise instruction in each of the important store systems, in the steps in making a successful sale. Films giving product information in both textiles and non-

[5] Eleanor Skimin, "Job Analysis and Breakdown of Teaching Typing Problems, No. 1. Changing a Ribbon." *Business Education World,* January, 1946, pp. 237-239.

[6] American Business Yearbook, *Improving Learning and Achievement in Business Education,* Vol. II. New York: New York University Bookstore, 1945. Chapter III, p. 67 and p. 80.

textiles would be effective additions to present classroom teaching materials.

Business teacher-training institutions and in-service business teacher-training programs can both be greatly improved by the use of motion pictures that will show the teachers in training good techniques—many of them—for assisting students to learn. Motion pictures showing the teaching of elementary shorthand by skilled teachers who have produced excellent results—and there are many of them—would do more to help beginning teachers—and older ones, too, for that matter—than all the library research on those methods that any one person could find the time to do. This is equally true in typewriting, in transcription, and in elementary bookkeeping. Publishers of textbooks might begin to think of accompanying their texts with such key films for educating teachers, in addition to the teachers' manuals that they now provide.

Motion pictures in business education are in the early experimental stages. There is much to be done. One author[7] suggests the development of co-ordinated materials for learning—"textbooks, workbooks, study guides, motion pictures, film strips, charts, models, and the like . . . planned as an integrated unit." Such integration has definite advantages, but may have the disadvantage of reducing the general utility of the motion picture for the teacher not using the particular text for which it is designed. The effective use of motion pictures in classroom instruction is dependent not only upon the appropriateness and the quality of the film itself, but upon the quality and ease of operation of the equipment. Those who prepare motion pictures for business education should be certain that the subject can more effectively be presented in this fashion than in any other. If the picture turns out to be a long series of paragraphs to be read aloud, or even to contain a considerable amount of such material, it is reasonably certain either

[7] R. S. Hadsell, "The Right Kind of Audio-Visual Materials for Business Education." *American Business Education.* (March, 1947) p. 191.

that the subject is an inappropriate one for this type of instruction or that it has been badly done. The function of the motion picture in instruction is to assist the learner in the visualization of the thing to be learned to the end that he can learn more accurately and more rapidly. Reading from the screen contributes no more to this purpose than does reading from the pages of a textbook. Another weakness to be avoided is the inclusion of too much in one film. When this is done, no single impression is made, no single process is followed through to the end that students have learned better and faster than they might have without the aid of the film. Progress is being made in developing films with this greater specificity, and the prospect is good for really effective motion pictures in business education in greatly increased numbers.

CHAPTER XV

APPLICATIONS OF THE FILM IN SAFETY EDUCATION

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Visual Aids Essential to Safety Education

The area of safety education in the school curriculum lends itself most readily to the use of visual aids, especially to films of all types. This is true for several reasons. First and most important, safety education is one of the newest subjects in the curriculum; consequently, very few teachers are adequately trained and the literature is rather limited. Then, because it is a newcomer, educators generally have not defined precisely the placement of its various phases in the curriculum. Fire safety, for example, may appear in general science one year and in physics the next. Or during one semester a safetyminded instructor may emphasize fire safety, only to have it slighted the next semester by another. For these reasons, good films are particularly valuable, since their intelligent use provides a comprehensive and continuing medium of presenting safety education.

It is often more difficult to teach safety than other subjects. Good teaching calls not only for the imparting of knowledge to students, but also requires the establishment of correct habits and development of the proper attitudes needed for safe living. Since safety education may be integrated with practically every subject in the curriculum, and since every teacher cannot be expected to be an expert in the field, films

provide a reliable and efficient method of presenting a desired phase of the subject. For instance, a civics teacher may want to present the social and economic aspects of the traffic-safety problem, and a 15-minute film with discussion may fill this need more satisfactorily than any other method or approach.

It is generally recognized by educators that learning takes place best through experience. Obviously children cannot be intentionally exposed to the various types of accidents in order to have them learn by experience that certain actions are dangerous. It is possible, however, for them to experience these accidents vicariously through the medium of the film. Such an experience will contribute to the development of knowledge and proper attitudes. Next to actual experience, seeing is one of the most effective methods of conditioning the individual. And, aided by skillful teaching, constructive values will undoubtedly be realized through the use of films. A great deal, of course, depends upon the caliber and appropriateness of the film, as well as upon the method of presentation and followup.

Films Must Be Carefully Selected

Since the viewer's very existence may depend upon his reaction to a given film, safety films must be carefully *selected,* critically *analyzed,* and intelligently *presented.* Every teacher who has used films has no doubt experienced at some time the disappointment and often the embarrassment of ordering one with an interesting and appropriate title, only to find it totally unsuited for the subject at hand. If all publishers would provide intelligent annotations when listing safety-education films, such disappointments might be avoided.

As has been pointed out in Chapter V, the wise instructor will be certain of the nature and possible effect of a film upon the audience before its presentation. There are some safety films that are not desirable for school use because of the flippancy with which the subject is treated, or because the

"scare technique" or other unacceptable devices are included. Certain others do not put across the points which the instructor is attempting to emphasize. Discrimination must be used, because safety education is a rapidly developing subject area and it is difficult for the film producer to keep pace with it. Outdated films, if shown, may defeat their very purpose.

Films Must Be Properly Used

Safety education is one of the subjects of the school curriculum which has on occasion felt the ill effects of the excessive and uncritical use of the motion picture. Being a new area of development within the curriculum, inexperienced administrators and teachers often resort to the use of the film as the *only* means of teaching safety. Some administrators are under the erroneous impression that they fulfill their obligation of presenting a program of safety education if they show a motion picture on safety before the general assembly two or three times during the school year. There is also an unfortunate tendency on the part of some to show *any* film that is proffered by *any* agency.

On the other hand it may almost be said that films, when properly integrated with a well-conducted course of study, cannot be overused in the presentation of safety education. This is true probably because safety education often requires graphic illustration, dramatization, and even humor to convey its message successfully. The sophistication of youth, particularly of high school students, calls for a most modern approach to a modern problem.

When Used for Assembly Proprams

Only a few safety films are completely suitable for use before assembly groups and should therefore be carefully selected. Safety films used promiscously as "fillers" when the speaker fails to arrive, or for entertainment purposes, are quite

likely to boomerang. They are used most profitably when there is need to attack a specific problem that confronts the majority of the student body. If the schoolbus program has not been functioning too smoothly and the faculty sees a need for improving pupil conduct, an appropriate film, such as *Priceless Cargo*,[1] would provide motivation for class or open forum discussion, or serve as a climax to a well-planned program. Pupils as well as adults are usually impressed when they see how other schools do it.

Other types of safety films can be used profitably in the assembly. There are, for instance, a number of traffic-education films containing good showmanship and plausible plots that can be of effective assistance in changing faulty attitudes toward traffic conditions on the part of students. Among them are *Drunk Driving*,[2] *Teach Them to Drive*,[3] and *We Drivers*.[4] Some fire-prevention films, including *Walk—Do Not Run*[5] on the subject of fire drills, and *Before the Alarm* covering the community problem, are also applicable. Home safety films are effective when shown to elementary pupils, but are usually boring to high school students.

If of good caliber, lifesaving and vacation films used prior to summer vacation, or winter sports films prior to winter vacations, are profitable to students on all levels. *Swim and Live*, an Army film, and *Play It Safe*[6] are films of this nature. Technical films of such highly-specialized fields as shop safety, lumbering, or the steel industry, are usually not very suitable for assembly use unless prepared especially for the purpose. They may stimulate interest in exploring other areas. It is a mistake to show an elementary school film before a group of secondary school students and vice versa.

1 Superior Coach Corporation.
2 Metro-Goldwyn-Mayer.
3 American Legion and Automotive Safety Foundation.
4 General Motors Corporation.
5 Harmon Foundation.
6 National Safety Council.

Films Rated Most Effective Method of Teaching Safety

The extensive study of safety education conducted in 1938 by the Research Division of the National Education Association indicated that the majority of teachers questioned (72.5 per cent) believed the motion picture the most valuable method of teaching safety. Only 0.7 rated them ineffective and none considered them harmful. This belief is supported by recent research.

In a study among fourth grade pupils of the educational efficiency of slides, posters, and motion pictures in teaching the major rules of pedestrian safety, Doscher[7] found that the groups taught by these methods were significantly superior to those where such aids were not used. In a limited study among elementary school children Goodman[8] found that the *silent* motion picture was the most effective for specific safety education instruction, and of the four methods studied (sound motion picture, silent motion picture, sound film slide, and silent film slide) the sound motion picture was the *least* effective.

Safety Films Analyzed

In general, safety films fall into two categories: those designed to sell a general idea, including methods of organizing a program, and those designed to teach the "do's and don'ts," or the proper skills of conduct in the respective areas. Both endeavor to build attitudes and influence behavior, and their success depends upon the caliber of presentation and their appropriateness to the occasion. Ordinarily the first type is not suitable for classroom use, but is best adapted to community groups. The second type is best suited to classroom use.

Many of the films in safety have been produced and spon-

[7] Nathan Doscher, *A Critical Analysis of Some Visual Aids Used in Teaching Pedestrian Safety on City Streets.* Ph.D., dissertation, New York University, 1939.

[8] David J. Goodman, *Comparative Effectiveness of Pictorial Teaching Materials.* Ph.D., dissertation, New York University, 1942.

sored by commercial organizations, among them being the automotive industry, which is primarily interested in traffic safety; firearms manufacturers, who are interested in hunting safety; the insurance companies, who are concerned with many areas of safety; and various industries which seek to improve working conditions in their plants. Despite the fact that these are commercial films, the majority are very well produced, are educationally sound, and free of undesirable advertising.

Some of the best films for school use are produced by such public-spirited organizations as the American Red Cross, Boy Scouts of America, and the National Safety Council. The various governmental agencies of city, state, and nation produce films in the fields of mining, forestry, traffic education, etc., but only a few of them are designed for classroom use. Relatively few are produced by the schools, the agency which some feel should take the lead in visual education.

From the educational standpoint, the most valid criticism which can be made of safety films in general is that they are usually expected to serve too many purposes and appeal to all types of audiences. Some apparently are aimed at selling the community or school an idea or at teaching skills on all grade levels, while at the same time providing entertainment. In other words the producer often fails to make the film fulfill a *specific* purpose, and it is this type of film which is most needed by teachers.

Teaching Safety in the Various Areas

Following is a brief resume of some of the better current films and suggestions for their use in the various areas of safety education. In each instance only the producer of the film is listed but most of them are available for loan or rental from many different distributors. They can usually be secured locally from the film depositories of universities, state departments and other agencies interested in safety education.

APPLICATIONS OF THE FILM IN SAFETY EDUCATION

Traffic Safety

Very few areas of safety instruction provide a better opportunity for making extensive and fruitful use of the film than driver and pedestrian education. Films on traffic education are usable in all school safety teaching situations but, as usual, care must be taken to select those that will serve the desired purpose. There are four general fields of endeavor rather well covered by relatively good films. They are, driver education, school patrols and pedestrianism, bicycling, and school bus operation.

1. *Driver Education*: There are more good films available for use in driver education than in any other field of the school safety program. Although most of them are produced by commercial agencies, on the whole they are very good and quite usable in the school. All driver education films are produced for use on the secondary school or college level because it is at these ages that youth is qualified and learns to drive. A number of films are designed primarily to induce communities or school authorities to provide driver education. A good example of these is *Teach Them to Drive,* an American Legion film produced by Pennsylvania State College.

For classroom instruction there are films available covering maintenance of the car, driving skills, driver qualities and characteristics, laws and enforcement, and engineering. Among the best films in these various areas, listed in above order are, *The Periodic Checkup,*[9] *Behind the Wheel,*[10] *Parade of Champions,*[11] *Selective Enforcement,*[12] *Keep Up With Traffic.*[13]

2. *Pedestrianism and Safety Patrols*: No other device will show so vividly the careless mistakes and foolish chances taken by pedestrians as will the moving picture. There are a

9 Castle Films.
10 General Motors Corporation.
11 Ford Motor Co.
12 Northwestern University Traffic Institute.
13 Purdue University, Engineering Extension Department.

few good films available for the teaching of safe practices as a pedestrian, most of which are designed for use below the senior high school level. *Safety to and From School*[14] is a recent film that is a good example of the best available for primary grade use; the "Our Gang" comedy group presentation of *1-2-3-Go*[15] is one example of the older "professional" films that is desirable for intermediate and junior high school grades; while *Steps to Safety*[16] is aimed at adult audiences.

Films provide a fine method of teaching patrol techniques and for inspiring the members, and those like *Safety Patrol*[17] and *How Patrols Operate*[18] *are recommended.*

3. *Bicycling*: The National Safety Council's 1946-47 *Directory of Safety Films* lists ten films on bicycle safety. Most of these are best adapted to the elementary and junior high school levels and teach the proper skills and traffic regulations of bicycling. *On Two Wheels*[19] and *Bicycling with Complete Safety*[20] are good examples of the best of sound films on this subject. There are other films available which depict methods of conducting bicycle registration and inspection, an important phase of a good bicycle safety program.

4. *School Bus Operation*: The U. S. Office of Education has produced a splendid film on city school bus operation called the *Operator and Safety* which is designed as a city driver training film. There are other good films available for this purpose and they are particularly well suited for use in the usual half-day school bus driver's training periods conducted by state police or other state agencies. To date there are only a few films available for the training of students, one of the best being *Priceless Cargo.*[21]

14 Young America Films Inc.
15 Metro-Goldwyn-Mayer.
16 New Jersey Department of Motor Vehicles.
17 General Motors Corporation.
18 American Automobile Association.
19 General Motors Corporation.
20 Cycle Trades of America.
21 Superior Coach Corporation.

Safety in Physical Education and Athletics

With the exception of playground and water safety there are few if any films dealing specifically with safety in physical education and athletics, although there is considerable need for such material.

Many of the films concerned with the teaching techniques in the various sports, however, contain specific items relative to safety.

There are a number of fine films available on water safety and life saving. These should be used in connection with life saving instruction and prior to summer vacations. Such films as *Life Saving,*[22] *Boy Scout Methods of Waterfront Safety*[23] *and Heads Up*[24] are excellent aids for the teaching of swimming and life saving techniques. *Oars and Paddles,* produced by the American Red Cross, is an example of a good boating safety film. There is at least one good film on *Vacation Safety*[25] which should be invaluable in forewarning students of the recreational hazards of summer vacationing. *Ice Rescue,* a film developed at the State College of Massachusetts, for the Boy Scouts of America, presents quite vividly the methods of rescuing persons who have "gone through" the ice. One of the few films available on playground safety is *Safety at Play*[25] which is particularly usable in three lower grades and for playground showing. *Safety On,* a sound film on hunting satety produced by the Department of Conservation, State of Michigan, should be a very helpful aid in teaching firearm techniques. *Trigger Happy Harry,* by the National Rifle Association, is a more recent film of this nature.

Shop and Industrial Safety

The supply of films on industrial safety is practically un-

22 Castle Films.
23 Boy Scouts of America.
24 American Red Cross.
25 Encyclopedia Britannica Films.

limited but very few of them are applicable to the school shop situation or suitable for use before general school assemblies. There are, however, a number of good films on eye protection, falling, and tool handling. *For Safetys' Sake,*[26] covering the care of portable power tools, is usable in the school shop. *Sight Security,* produced by the U. S. Department of Labor, is a forceful presentation of the importance of industrial eye protection, and *The Fall Guy* of the National Safety Council depicts the hazards of falling. School shop instructors are especially warned to review industrial safety films before presenting them to their classes.

Fire Prevention

Fire prevention films range from those showing the proper use of fire extinguishers to the complicated process of fighting petroleum fires, and are designed to prevent fires in the home, at school and in industry. Many of them on such subjects as the functioning of a fire department and how to prevent and fight forest fires, are particularly usable in the social studies. *Stop Forest Fires,* produced by the U. S. Department of Agriculture, is one of this type that is also adaptable to assembly use.

Home and farm safety are served by such fire prevention films as *A Word to the Wise,*[27] *Bad Master,*[28] and *Worst of Farm Disasters.*[29]

The fire prevention films as a whole are good and cover a wide range of activities.

Home and Farm Safety

Home safety is a phase of safety education that has been quite generally neglected, probably because it is difficult to

[26] National Safety Council.
[27] National Retailers Mutual Insurance Company.
[28] The Aetna Fire Insurance Co.
[29] U. S. Department of Agriculture.

interest students in such prosaic items as keeping toys off stairs and poisons out of reach of little tots. Motion pictures can and do present the many hazards of the home and farm in a relatively interesting and effective manner. For younger tots, *Safety Begins at Home*[30] is a good type of instructive film and *Home Safe Home*[31] vividly depicts home activities which each year result in over 30,000 deaths and 4½ million injuries.

Another vast area for accident prevention is the farm, and there are a few good films available though many more are needed. The National Safety Council has produced a slide film, *Seven Million Hands,* for use in training volunteer farm hands which should be very useful when one considers how unfamiliar some city volunteers are with farm hazards.

30 Young America Films.
31 National Safety Council.

CHAPTER XVI

APPLICATIONS OF THE FILM IN HEALTH AND PHYSICAL EDUCATION

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This discussion of the applications of the film in health and physical education is divided into two sections, *Health Education* and *Physical Education.* It is necessary, first of all, to review the position of health education in the public schools before showing the application of the film in health teaching.

Pattern of Health Education in the Public Schools

What is the present pattern of health education as it exists in the public schools throughout the country? There are schools which organize and carry on health education practices under three frequently recognized divisions: *Health Service, Healthful School Living,* and *Health Instruction.* The health service is designed to include the medical and dental examination, the follow-up program, health guidance, accident prevention and first aid, communicable disease control, and some system of keeping health records and statistics. Healthful school living refers to the school environment as it effects the well-being of the child. Health instruction includes, as the term implies, all the patterns, procedures, and methods by which schools attempt to "teach" or "instill" acceptable behavior habits conducive to good health, knowledge of body functions, and the understanding of health and its maintenance.

It would be difficult in some schools and impossible in others to find adequate attention being given to health service. The health examination is entirely omitted in many schools though a number are setting up adequate periodic examinations, with definite follow up programs, under the guidance of qualified health personnel. Some schools are screening for defects. Vision and hearing are the defects most often checked, following which school people make recommendations for the removal or the improvement of such conditions, or aid children in making adjustments, both mental and physical. Finally, there is a mass of schools which do no examination, no organized screening, but through teacher and nurse observation, make recommendations to the parents. The American Association of School Administrators, in its publication *Health in Schools,* points to the inadequacy of the school health service in terms of total coverage, and also points to the insufficient provision for health service outside urban districts. Very often the school focuses its attention upon health examinations and suggestions for immunization, and many other problems such as those involving the cooperation of the school with the home and with community agencies go unsolved. This publication states:

> "If the total number of administrative areas (126,849 school districts) is taken into consideration, the general conclusion is that the great majority (some estimates are as high as 80 percent) are without any, or else practice only the most rudimentary form of health service."[1]

Healthful school living interpreted in its broadest aspect would encompass every aspect of the school's and the community's influence upon the health of the children. How is healthful living being emphasized in our public schools?

1. Some school authorities recognize that a healthful

[1] American Association of School Administrators, *Health in Schools,* Washington, D. C. 1942.

school environment requires something more than physical sanitation, and they have set up plans for the organization and administration of activities which make up the daily schedule of the child.

2. The classroom teacher may have the responsibility of mainaining hygienic conditions within her own room, and she will be concerned with the development of health concepts, and with the practice of desirable health habits.

3. Administrators may assume the responsibility for school environment and may delegate the work of maintenance to the instructional staff and the janitorial staff, or they may place the responsibility in the hands of a school committee. Environmental check sheets are often used to survey sanitary conditions, and these may be forwarded to a central office for reference.

Briefly, the picture indicates that there are many areas in which improvement is definitely needed, and all these have direct bearing upon the health of the child and the effectiveness of the entire school health program, health service, healthful school living, and health instruction.

The health instruction phase of the health program is the one with which this chapter is most concerned, and the following illustrations will indicate some of the procedures that are being practiced in schools at the present time:

1. Health essentials are integrated, wherever it seems feasible, in social sciences, biology, home economics, and physical education activities. This may vary in different schools, but all follow the pattern of body functioning, personal hygiene, nutrition, importance of adequate rest and sleep, importance of adequate exercise and out-door living, and the harmful effects of alcohol and narcotics. More recently health educators have included areas in safety and accident prevention, sex education, mental hygiene and consumer health.

2. The special health classes, which begin in some schools on the fifth and sixth grade level and continue through

high school, show a second portrayal of the method in common use. These special health classes follow along several lines. (a) They may have graded text books. (b) They may be based upon courses of study or course outlines as prescribed by the state department of public instruction. (c) Still others are carefully worked out units, originating in the schools themselves, and based upon the needs of the grade level at which they are presented.

3. The state course of study mentioned previously in connection with special health classes may serve as a guide for the health instruction program in the schools and may give impetus to the program, regardless of the pattern of instruction that is followed.

Health education teachers will agree that there are areas in which improvement is needed before the health status of students can be raised:

1. Increased emphasis upon health service features that include the community and public health agencies in their planning, and organized procedures for determining health status of school children, and a follow-up program that results in an improved health status for every school child.

2. Improved physical environment in terms of better housing, equipment and materials to fit the size and need of students, adjustment of school schedules to eliminate or reduce physical and mental tension, and also the solution of problems in lighting, heating, ventilation and other aspects of the physical environment of the school. There is a need for more sensitivity on the part of the classroom teachers to the value of the aesthetic quality of the classroom.

3. More effective classroom teaching is the area getting much attention at the present.

It is not within the scope of this chapter to make a complete analysis of the effectiveness of classroom procedures as they are practiced in schools today. It is the purpose here to show constructively how the educational film can function as

an educational medium. The term "effective teaching" is used here to refer to the knowledge acquired and the learning activities that result in habit formation, and the development of attitudes which lead the student toward becoming self-directive. Health educators have long realized that mastery of subject matter and memorization of facts and essentials of healthful living insure no guarantee of better living. Effective teaching can, to a great degree, bridge the gap between the learning and the application of those knowledges to living. A health teacher, in order to insure the carryover of such information and knowledge, will make available to her students all materials and experiences, actual and visual, by which impressions can be made. The educational film is one such device when it is used intelligently and strategically by the teacher.

How Can The Film Function in Effective Teaching?

The educational film must first be recognized as basic material for instruction. Teachers may well rid themselves of the concept that films are merely supplementary aids to the curriculum, for such a philosophy has weakened the position of the film and in part destroyed its effectiveness before it had a chance to prove its worth. Health teachers want films that are related, closely related, with units of health which they are teaching. They need films that have been produced with a complete understanding of the same aims and outcomes that are set up by the teacher for her special unit. One reason the films were effective in the war training programs is that they were made specifically to fit special features of the training program in a constantly changing situation.

Teachers can find films with the dramatic and emotional appeal, and they can find the types which are designed chiefly to be authoritative. They need films which are intended primarily for classroom use, which deal with scientific facts, present them accurately, stimulate thinking, and give rise to critical evaluation.

It is obvious then, that there is need for the health teacher to acquire a philosophy for the use of the film. It is imperative that she apply the same principles of psychology of learning that she finds valuable in teaching and working with other devices. She will come to use the film as an educational medium and not as a supplementary aid intended only to arouse emotions or gain momentary interest. In neither of these latter situations can she stimulate the growth and the development of new ideas.

The film becomes more effective as a basic material for instruction when teachers begin to recognize its real significance and acquire necessary techniques and methods for its use, and also when companies begin making films to fit the subject text which is being used in schools. State departments of education will come to see the importance of increasing opportunities for the use of films in schools by financial aid. and they will also recommend films that are based directly upon or related directly to a specific unit. Films will be developed for all age levels, and teachers will not expect a film to stretch from the sixth grade through high school or from junior high school into the second year of college.

"Not only must educational films deal cogently with facts, ideas, and principles, but they must present these facts, ideas and principles in such a way as to be understood on specific age and grade maturity levels and within a context of individual and social meaning and responsibility for audiences on these levels."[2]

Some such developments are here. McGraw Hill Book Company has announced the production of 16mm sound films and silent film strips for the textbook, Diehl's *Healthful Living for College Students*.[3] Some of these films have been prepared to correlate with this particular text, using the same basic approach to the subject and the same terminology. Users of

[2] Hoban, Charles, *Movies That Teach*. Dryden Press, New York, page 70.
[3] *Educational Screen*, December, 1946, page 51.

the text have been questioned in order to adapt the films to chapters most difficult to grasp, and in order to select those chapters that can be more effectively implemented by the visual medium.

The state of Oregon has plans underway for the production of a film or films to accompany their state guide for health instruction.[4] Such films are planned in accordance with the objectives for the units with which they will be used, and in direct relation to the subject matter content.

There have been some indications that films have been used more extensively in health teaching. This has been evidenced by:

1. The addition of health films to film libraries in schools. State health departments and state departments of education have set up film distributing services.

2. There is a marked increase in the production of health films.

3. Courses have been introduced into teacher training curricula, to train teachers in the operation of machines, preparation of materials, and selection of films.

4. Visual education committees are increasing in special departments as well as in schools. Professional organizations in health and physical education are setting up evaluating committees as a step toward directing teachers in the use of films.

5. There is an indication that teachers are making more critical evaluations of films and that they are demanding audio-visual materials that are well adapted to age groups and areas of instruction. This is indicated by the pressure that is brought for better instructional films.

6. There is an increase in the number of inquires and request for films dealing with health instruction.

7. Production companies request suggestions and collaborations with health educators. This means more correla-

[4] Hoyman, H. S., *Health Guide Units for Oregon Teachers,* Edwards Brothers, Ann Arbor, Michigan.

tion with aims and goals in teaching programs and more co-operation between film producers and teachers.

The Film Becomes One of The Basic Teaching Materials

Once the teacher sees the place which the educational film can take, and once she has some knowledge of evaluation, she is ready to use the film. Actually, this is the crucial problem. The use of the educational film requires planning and preparation, and this involves student activity and participation.

The instructional film, as well as the documentary film, is justified of its position here only if it serves a capacity that no other device could serve. "The Instructional Film is designed to teach a particular concept, principle, or generalization; to build an attitude or outlook; or to develop a skill."[5] Dale further describes the documentary film as one also characterized by specific teaching purpose, though its techniques are to show the effects of certain experiences or conditions upon individuals or groups. This type of film readily adapts itself to problems in health teaching. The context of such films certainly pushes aside the walls of a classroom and helps the student to grasp the meaning of the particular phase of health education upon which the use of the film was based.

It is necessary to plan for the job that the film is to do, and it is here that many teachers have erred. Because they have not succeeded in getting the greatest possible value from the film, the film in some instances has fallen into ill repute. Student reaction to films has often been negative because of a lack of thought stimulation or because of insufficient background of scientific information. Dewey points out that no experience having meaning is possible without some element of thought.[6] Films need not be isolated, vicarious experiences with little significance, and there need be no missing links be-

[5] Dale, Edgar, *Audio Visual Methods in Teaching*, Dryden Press, New York, 1946, page 301.
[6] Dewey, John, *Experience and Education*, MacMillan Co., 1938.

tween the audio-visual experience and the organized subject matter making up the content of the health course. When there is teacher and student planning and preparation for the film, there is reasonable assurance that the film will be an educative procedure with the necessary quality for stimulating thought and formulating ideas.

The film is a tool that must be handled with clarity of purpose and dexterity, and it must be intelligently manipulated with a skill that is comparable to the skills used in handling other basic materials.

The film must be previewed, not only before selection as a part of the evaluating process, but again before use in the class. This will enable the teacher to anticipate points in the course of the showing where discussion will be forthcoming. She will note also the areas needing further explanation, will be able to anticipate questions from students and plan for them.

The time at which the film is introduced in relation to other materials is vitally important. There is a place in the sequence of planned activities and organized instruction within a class where the film will best do the job of giving additional information and supplementing that already learned, and perhaps by leading the way to further study or the pursuit of a specific problem outside the classroom.

A health education teacher will set the stage for optimum learning by discussion before the film is presented, or she may stop the film and make emphasis at the time when such emphasis will be most impressive. She may choose to follow the film by discussion while it is still clear in the minds of students and while their thinking is being challenged.

These introductory remarks and the activities of the class prior to seeing the film go a long way toward determining how much a class will learn from the film. Activities which follow a film are most valuable when there has been an analysis of the material covered in the film. In health class, a teacher may

point to the physiological significance of the film and to the social factors involved.

The film may be shown a second time, or a third, or a fourth. Why not? Maps and charts are studied continuously. It is true that if the film has been made with definite objectives in mind, it may require repeated study and thought very much as a good reference book.

As producers make films which are directed toward specific subject matter and which facilitate good teaching, so shall the health instruction program find a place for these films. In this manner the health classes will be stimulated and their reaction influenced in the direction of desirable life-long attitudes and habits.

Examples of Direct Outcome From the Use of Educational Health Films

1. Films may motivate written work, and when they do, students should be guided into the research type of written work lest it become a stale essay of cumulative material that they have been able to remember and yet not able to associate with their own modes of behavior.

2. Age and maturity, experience, and special interests of pupils are all factors which influence outcomes. Students may be led into activities which tend to broaden their interests, and which tend to develop habits of inquiry, self-expression, and creativeness.

3. Stimulation of students to participate more in the planning of learning activities may result from the integration of the film with such devices as the classroom experiment, field trip, and class forum.

4. Successful use of the film results in formation of new points of view, and may not only give information on new discoveries but may do much to disprove fallacious ideas and superstitions by substituting scientific facts and authentic in-

formation. *Story of Menstruation*[7] is such a film, and users report that this film can do much to dispel fear and correct false impressions regarding the menstrual period.

5. The film affords a learning situation for teachers as well as for class members.

6. The film de-emphasizes textbook presentations, and offers a challenge to the good teacher to explore this area and other areas of basic teaching material.

The foregoing points are by no means exhaustive; they are only suggestive of the possible outcomes of the educational film in the field of health education. More attention has been given to the instruction area; but health educators with some ingenuity in planning will find the educational film has a contribution to make in the phase of health service as well. For example, a film showing the procedures of a child health examination could do much to prepare children for that experience and eliminate any anxieties they may have because of misinformation or lack of understanding. There should be no clear line of distinction between the health instruction phase of health education and the healthful school living phase. The film has a function to perform in relating these. The film forum could be made a very useful agency in both adult education and communiy hygiene improvement programs. It is not too far fetched to think that such an adult education program might grow out of a ninth or tenth grade health class through the medium of a parents' group.*

The film cannot completely solve problems facing teachers, administrators, and those supervisors who view with concern the present state of affairs in health teaching, but it can be recognized as a useful tool which can be used to shape learning.

[7] International Cellucotton Products Co., 919 North Michigan Avenue, Chicago 11, Illinois.

* Health teachers willing to explore this area should follow the briefs of such film forum programs in *Film Forum Review,* Institute of Adult Education. Columbia Univerity, N. Y.

Educators will remember that the film can best serve if it goes hand in hand with the textbook, the class discussion, the experiment, the field trip, the outside speaker, maps, charts, graphic materials, and all the mass of instructional materials drawn upon by the teacher. Health educators see the need of drawing upon all educational media to reenforce their teaching. The film is one avenue with great potentiality for this reenforcement. Health films properly made and used may be one answer to the question: "How can health teachers get carry-over value into better living?"

The Film in Physical Education

What has been the trend in the use of the film in physical education classes? It is probably true that the film first came into use in this field in the area of athletics. Later, coaches found that films were a useful medium for analyzing form and comparing body positions and movements in such tions of players, or less effective strategies.

It is difficult to say just when the film invaded the physical education classroom, but it is only recently that it has gained the recognition of physical educators as a basic teaching device and not just a mere supplement. Some physical educators disagree with this point of view and maintain that the educational film is still in use chiefly as an aid. Two points should be made to substantiate the more significant position of the film. First, producers have more recently placed emphasis upon making instructional films for basic teaching purposes. Such films as *Soccer for Girls, Speedball for Girls, Archery for Girls,* and *Simple Stunts* are examples.[8] All of these films have been produced under the guidance of physical educators who assisted in the script writing and in actually planning the sequence of techniques and the movements of

[8] Coronet Instructional Films.

the participants.* Why are such films listed as illustrations of the film's acceptance as basic material for educational purposes? First, production of such films indicates that they are being made to cover wider areas than merely those sports which produce national champions. Secondly, films are activities as swimming and track. Then, the motion picture was used to illustrate a team's maneuvers during the course of a competitive contest, and to show errors in judgment, posi- beginning to use high school and college students as performers; hence, they are more interesting to the classes which see them. Third, educators who use these same films in the classroom are having a chance to make suggestions relative to the areas of physical education in which films are needed and to help direct their making.

A second factor that shows that the film is being accepted as more than just a teaching aid is indicated by the demand of teachers, men and women alike, for more instructional films and more documentary films in addition to those which are primarily entertaining. This is a healthy sign that films are not merely being shown but that they are being used intelligently to build the background experiences most conducive to learning a specific activity.

Freeman's[9] studies show an increase in film effectiveness when the circumstances seen and heard in the educational film more nearly parallel the student's own background of experience. A physical education teacher can stimulate interest and enthusiasm by showing to his or to her class an exhibition by experts in tumbling. Valuable? Yes, for interest and entertainment value, or for a group of tumblers whose skill is reaching the stage shown in the film; but not for a beginning class. For too long, physical education teachers have subjected their

* See February 1947 issue of the *Sports Bulletin*, for an account by Marjorie Fish, New Jersey State Teachers College, of her collaboration with Coronet Instructional Films in making *Soccer For Girls*.

9 Wood, B. D. and Freeman, F. N. *Motion Pictures in The Classroom*, Hough ton and Mifflin Company, Boston, 1929.

classes to observation of films which show the star performer winning a championship. Along with such films teachers needed films showing sports fundamentals and stages of progression that are commensurate with the capabilities of the students receiving instruction. The film then becomes an educational and a motivating device.

One can readily see that films must be made or planned specifically for the age group for which they are to be used. It is unreasonable to expect that a fifth grade boy will respond to a film beyond his years, in either interest, understanding, or application. The plea, then, is for the development of films designed to fit the age and the subject needs, and for the training of teachers who are skilled in applying the film to the best advantage of students.

It has been said that pre-disposition on the part of pupils is a determining factor in the effectiveness of learning. The trained teacher knows her film material, selects it wisely, understands the technicalities of its use, and knows the factors which she can introduce to get class members to the susceptible stage by the time the film is actually used.

Girls, upon seeing *The First Century of Baseball,*[10] commented that they would like to see more girl performers; that "it would be fun to see a movie of softball as *we* know it." They are interested in how children of their own age carry on such activities.*

One of the strongest points in favor of the use of the motion picture in physical education is the fact that it is a device which can show movement. Furthermore, it is a device which can mechanically control the movement, thus making it more flexible as a tool in the hands of a capable teacher.

It is not intended that the film supplant the demonstration, the drill, the teacher, or any medium of learning that has proven valuable. It is intended that the film be used skillfully

[10] The American Baseball League and the Fisher Body.

* Such a film for girls is *Softball Fundamentals,* recently released by Young America Films, Inc.

and that it be allowed to become as influential in the learning process as is possible. Interest is a primary factor in the learning of physical skills, thus there seems some justification for the film which is used to promote interest.

Educators have long realized that the film offers an opportunity for portraying activities without limitations in time and space. There is value in a carefully prepared blackboard discussion of the arrangement of the two teams for a soccer game; but there is much more value in a picture showing the players in position, taking a kick-off, and demonstrating some of the elementary principles of the game. A member of the class can identify himself with the half back and go through the film with a real personal interest. If the teacher takes the group directly to the field after such a vicarious experience, he will undoubtedly see the results of the pattern for learning which he has just set up via the film.

There is a fallacious idea that the film is valuable only for promotional and interest arousing aspects. Give the physical education teacher a film which has in it the factors relating to the experiences and the abilities of those who are going to see it. Inspire the teacher to prepare for the showing of the film, by giving the group some experiences in the performance of certain skills. This gives rise to problem-solving situations. Introduce the film, and students will learn, not by imitation alone, but by re-application of information and experiences they have already acquired through class experience.

Simple Stunts[11] is a film directly relating to the experience and abilities of boys and girls who will see it. It could be used for either boys or girls; preferably for boys because performers from a boys' class were used as demonstrators in the film. Similar films are needed in the field of physical education. Other needs are here enumerated: (1) Films made to teach and to give authentic information, not to emotionalize. (2) Films using boys and girls in activities which parallel or relate to

[11] Coronet Instructional Films.

activities which the observers themselves are learning to do. (3) Films which illustrate the degree of skill that audiences can reasonably hope to accomplish. (4) Films reaching into heretofore unexplored areas, and to areas having a recreational value.

Suggestions for the Use of a Film as An Integral Part of a Lesson

The film used here for illustration is: *Jumps and Pole Vaults,*[12] and the hypothetical class is an upper junior high school group. In part, the appraisal of this film reads: "Reported excellent for demonstration on forms and styles used in the high jump; running broad jump; hop, step, and jump; and pole vault; found useful in (1) developing an appreciation of the necessity for good form in athletics and (2) stimulating an interest in the track; should also be useful in developing spectator appreciation of track events."[13]

The use of the slow-motion in this picture makes analysis easy and gives time for intellectual response by students; whereas, an actual demonstration does not. Also the value of varied types of form is shown. A teacher may thus relate individual differences because no strict conformity is implied in the film.

A skilled teacher will *plan* for the use of the film. He will give basic instructions, including analysis and drill on some of the basic techniques desirable for these special track events. Next the class will practice, and a consequent development of skill will take place. The students will also acquire some basic information and some liking and appreciation for the activity.

It is assumed that the teacher will select a strategic time to show the film. This matter of timing is again emphasized. It is quite different from the common practice of "running in" a

[12] Encyclopedia Britannica Films.

[13] American Council on Education, *Selected Educational Motion Pictures,* Washington, 1942, page 160.

film on a rainy day, or when the gymnasium floor or athletic field is in use by another group.

The teacher views the pattern of experiences that his class members have gone through thus far. To illustrate, such a pattern for a group of ninth grade boys might run something like this:

1. Introduction to new skills: broad jump, high jump, pole vault, and hop, step and jump.
2. The class has seen various techniques analyzed and can recognize them.
3. The students have become familiar with new equipment.
4. The students have experienced practice in various skills and have experienced skill mastery to some degree.
5. The students see the film. *The film enters the picture here as a piece of basic teaching material.*
6. In addition to the audio-visual experience, the students make interpretations in terms of their own experiences.
7. The students make an intellectual response by applying coaching points to their own ability and degree of accomplishment. They may get a few more ideas to aid in skill improvement. They may be motivated to further practice. They may realize for the first time, the significance of the slogan, "there is safety in skill."
8. The class goes directly to the practice area. They are already dressed for activity so there is no delay or chance for distraction. The instructor may use a minute or two for directions, answering any questions or giving opportunities for discussion. Ideally, the participant engages in activity while he is stimulated to intelligently direct his physical responses. For several class periods, the teacher may refer to this audio-visual experience.
9. The film may be reshown to an advantage.
10. The teacher may wish to retain in the film as live material by adding supplementary graphic, or photographic

material on the bulletin board. If he is an amateur photographer, he may even use snap shots of his own class to catch the poses of various individual adaptations of techniques. Much variety and ingenuity may be introduced into such a teaching plan. The foregoing outline is only suggestive, and by no means exhaustive of the way in which the film may be used more educationally.

Conclusion

It may be stated that the health and physical education fields, working as they do to develop desirable skills, habits, and attitudes in their students, constitute one of the richest areas in the entire school curriculum for the successful use of educational films. No teacher—whether at the elementary, high school, or college level—can afford to overlook the enormous contribution which wise use of the film can make.

CHAPTER XVII

APPLICATIONS OF THE FILM IN GUIDANCE

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Guidance has been adequately defined as a body of services provided to assist individuals in making satisfactory adjustments. An analysis of this definition today reveals meanings quite different from those it conveyed a few years ago. Today the word "individuals" refers to a larger number of students, the largest enrollment in the history of education. The word "adjustments" refers to more and different problems. These differences have affected the function of men and women in guidance, complicating their duties. Not only are there more students who need help, but there are proportionally far fewer counsellors to help them. Lack of facilities and more crowded schedules have increased the burden even more.

Furthermore, student maladjustments have not only increased in direct proportion to mounting enrollments, but also the adjustment needs of the individuals have intensified with the complexities of their post-war problems. Can films help to meet this double challenge?

Even though the problems faced by guidance personnel today may seem insurmountable, there is much to be gained through the use of films. Some of the special values which films can render are revealed in an analysis of the counselling process.

Counselling is generally concerned with the following steps in assisting students:

1. Personal objectivity—a systematic analysis and observation of the individual as he behaves in a problem situation.
2. An objective study of the situation in which the individual is experiencing some degree of maladjustment.
3. An integrated observation of the individual and the problem situation, which is necessary before alternative and potential solutions can be clarified.

Consideration of the increased enrollment and accompanying conditions as one observes them on every campus today is added reason for the use of films in these three steps of counseling. Students in any given group have many problems in common. Although each person is unique in total aspect, a considerable degree of similarity appears in individual aptitudes, interests, values, attitudes, and needs. The normal curve of any distribution reveals great ranges among individuals, yet it also shows strong central tendencies which are equally characteristic of the curve. The similarities which are to be found in the students enrolled in a given class are as real and as genuine as the differences among them, and merit equivalent consideration in the teacher's planning. Furthermore, where similarity prevails to such an extent, methods of instruction which can be used for large groups are particularly appropriate. Moreover, substantial economies may be affected through the use of mass procedure; a well-chosen film is as effective instructionally for an audience of several hundred students as for a classroom of thirty, and at a much lower individual cost.

Films can be used effectively in a group concerned with vocational orientation, personal student evaluation, and in the area of problems common to the group. Unfortunately, more counselling and instruction today must be given in groups, since individual interviews with each student are virtually impossible. Films should be used to render what services they can to students *in a group.* This idea would lessen the number of interviews which students otherwise would need with counsel-

lors. In passing, the use of films will frequently equate the services rendered by an interview especially in those areas where students are seeking less personally related information.

The Use of Films in Vocational Guidance

When one considers that a large majority of students go to college in order to prepare for a vocation, it is only to be expected that a large number of students will need guidance in this area. Virtually every student needs some guidance with regard to his vocational ambition. The extent and kind of assistance which students need will, of course, vary with individuals, but, as indicated before, students' needs exhibit a high degree of similarity. Every student needs clarification in some of the following general areas:

1. Personal evaluation in terms of personality, aptitudes, interest, and ability.
2. Broad vocational exploration.
3. Objective information about a vocation or vocations.
4. Information about vocational trends.
5. An objective and comparative analysis of himself and the vocation in which he plans to engage.

There are extensive lists of available films which can be used with respect to these student needs, and a number of reliable sources which one can consult about film productions. The *Educational Film Guide* (H. W. Wilson Co.) is an excellent index to films suitable in vocational guidance and other areas. The Carl F. Mahnke Productions has contributed excellent films on the general and specific aspects of choosing a vocation and vocational analysis. Most producers publish lists of available films, which can be had for the asking. Especially helpful are their guides, published to offer suggestions in the use of the film, and commenting upon such aspects of the films as the type of groups for which the film is suitable, the aim of the film, the content, and frequently including a lesson plan.

Tests on the film content and related bibliography are usually provided.

Vocational films are valuable for certain purposes in meeting the needs of selected groups under given conditions. However, a vocational film in one situation can be very beneficial to students, and in another situation with another group the same film may prove valueless. Films must bear immediate and close relation to the needs of the group, its purposes, and its goals. At best, the film will provide relative values. No film alone can suffice in dealing with any topic. The most suitable film will serve as an adjunct, as supplementary material, or as an integrating technique for crystallizing or pooling the experiences of the class.

The film *Using the Classroom Film** can be used to good advantage in showing how a film can be employed in classroom teaching. This teacher training picture, photographed in cooperation with the Laboratory School of the University of Chicago, offers valuable suggestions which counsellors and teachers who plan to use films in the classroom should see.

In a broad sense, the use of vocational films is an effective method of facilitating personal objectivity on the part of students, providing broad vocational exploration, and promoting more objective study of specific vocations. To achieve these objectives, the following sequence of guidance activities is suggested. All of the steps need not be used. Only those need be selected which the counsellor deems suitable for the selected group. For a class in vocational orientation, the following sequence of practices seems to be appropriate:

1. Giving the group a battery of tests.
2. Test interpretation.
3. Use of general vocational films concerned with choosing one's lifework.
4. Use of general vocational films dealing with one area of occupations.

* This and other films referred to are documented at the end of this chapter.

5. Use of vocational films related to specific vocations.

1. *Giving the group a battery of tests.*

Any method of instruction is enriched by active student participation. In the area of vocational guidance his participation consists of taking tests to gain more objective information about himself. This interests the student who wants to learn about his vocational aptitudes, interests, abilities, and his personality. This individual participation is especially important in terms of motivation when he is shown such films as, for example, *Finding Your Life Work,* by which he can identify himself with students in the film who are going through the same procedure he is experiencing—that of vocational planning. His test-taking adds meaning to the film. He can see more objectively how he fits into the process of vocational selection. He is given confidence in his vocational pursuit by seeing that others do what he and members of his class are doing in choosing a vocation wisely.

The film *Of Pups and Puzzles* motivates vocational guidance discussions with regard to individual differences and techniques to be followed in fitting applicants to vocations in which they can render their greatest usefulness. The picture illustrates how three applicants for a job at an airplane factory show different reactions to similar jobs and how each is placed in his appropriate type of work. The instructor's commentary can be made in reference to tests taken by the group and the purposes these tests can serve in the process of choosing a vocation.

Another film of value in emphasizing that one should choose his own vocation is *Educating Father.* Father, a druggist, wants his son to give up his notions about aviation and to become a druggist like himself. The grandmother points out that he, the father, once ran away from home in order to pursue the vocation of his own choice. Class discussion may be stimulated concerning the topic of the film. It should be em-

phasized that after all it is the *worker* who should choose his lifework since he will be affected by the choice.

Greener Hills can be used for its vocational implications for high school and adult groups. The theme is concerned with an incurable optimist who succeeds at nothing because he tries everything. It is well dramatized and well portrayed. Another film suitable for vocational orientation is *Honesty Is the Best Policy.* It is effective in stimulating class discussion on attitudes and vocational planning.

2. *Test interpretation.*

On many campuses it is virtually impossible to give every student a personal interview in order to interpret the findings of tests he has taken. This is an essential procedure in vocational planning, and much can be done in group interpretation. A more or less general interpretation of tests can be made in small groups of twenty-five or thirty. Slides can be made of test profiles, and, with the aid of the instructor's comments, interpretation otherwise given in an interview can be given in groups. Such terminology as percentiles, deciles, and others used in testing can be explained. Being seated at relative distances apart, college students can to a considerable degree interpret their own profiles after some preliminary directions have been given. This procedure in group test interpretation frequently renders a real service to students which they otherwise do not receive.

3. *Use of general vocational films concerned with choosing one's lifework.*

Test-taking serves as a good introduction to films which aim at giving students a general plan for choosing a vocation intelligently. A list of excellent films for the purpose of vocational orientation would include such well known titles as *Finding Your Life Work, Choosing a Career,* and *Aptitudes and Occupations.*

The *Your Life Work* films, for example, take the film audience through important steps of intelligent vocational se-

lection as contrasted with the chance selection which frequently characterizes the method used by many students. These films enable the student to see:

1. What the workers do in the vocation.
2. What the working conditions are in the vocation.
3. What training is required and where it can be secured.
4. How the school can contribute to this training.
5. What personal qualities are necessary for the vocation.
6. What the promotional opportunities are in the vocation.

In the first place, such films are especially valuable as sources of job information—a pertinent phase of vocational selection. Furthermore, through the use of these films, students are given the opportunity to identify themselves with the worker on the job. General vocational films can provide students with a plan for selecting a vocation, taking due cognizance of their potentialities realistically and objectively.

Since students have had the same experience of seeing the film this can serve as a springboard for class discussion. Some points which will need further discussion and interpretion in class are the following:

1. Review the step by step process by which one chooses his vocation intelligently as shown by the film.
2. The value of objective personal analysis as contrasted with chance selection of a vocation by intuitive activity.
3. Factors which have already influenced some students in class to choose their vocation.
4. The relation of hobbies, pastimes, and extra-curricular activities to job selection.
5. The relation of one's past work experience to job selection.
6. Influences which affected the vocational choice of their fathers, brothers, friends, and others they know.
7. Oral reports of students who read outside references pertaining to the topic of choosing a vocation.

4. *Use of general vocational films dealing with one area of an occupation.*

Before showing general vocational films which deal with more specific vocations belonging in a particular area, such as forestry, secretarial work, and engineering, students should have experienced taking tests, and should have received an interpretation of tests and some insight for choosing and analyzing a vocation objectively. Films about vocations in one area will serve the purpose of narrowing the range of vocational exploration. Suitable films for this purpose, to mention a few, would include *Journalism, General Agriculture,* and *How to Make a Sales Presentation Stay Presented.* The film audience may consist only of students who are interested or have potentialities along the area being presented by the particular film. These films, like other general vocational films, show students the number of different jobs in one area of work. They help to explain "job families," and to show, for example, how one who majors in journalism is suited for one type of job while another major is suited for a different job within the same area of work. A general film dealing with the topic of how to choose a vocation should preceed this film to make it more meaningful to students.

Discussion which follows this film might include such topics as:

1. Why can't all persons portrayed in the film do the same type of job if it belongs in the same general area of work?
2. What premium did the film place on work experience?
3. Tell something about real persons portrayed in the the film whom you know personally to be engaged in this type of work.
4. What type of skills are shown to be broadly applicable in this area of work?
5. What is a "job family?"

6. To what extent does one's personality affect his success or failure on the job?
7. What are the advantages of this type of work? The disadvantages?
8. What is the general purpose of this type of film?

5. *Use of films related to specific vocations.*

It is quite common to find students who have chosen their vocation blindly because they have evaluated themselves subjectively. Often, they merely "feel" they can do the job they have chosen as their lifework. That their identification with requirements of a particular vocation is made too subjectively, can be recognized when they are asked to describe the duties of that vocation.

The use of a film which deals with a particular vocation is a good method of studying vocations since it gives students a live experience which they can analyze. It helps to simplify a rather complex topic which when treated only verbally is quite ineffective. This type of film reaches students more impressively in less time because it is well organized and prepared in an interesting manner.

Some of the films in this area would include *Men of Medicine, I Want to Be a Secretary, The Electrician,* and *Assignment: Tomorrow* (Teaching). More realistically, the film audience is shown the type of person who succeeds on the job, the type of skills he must possess, and other factors which are frequently neglected in choosing a vocation. (This type of film can be more valuable to students if they read about the vocation before seeing the film.) The power of identification (students' seeing themselves in the roles of the workers portrayed in the film) is an effective way by which students are encouraged to think twice before they choose a vocation. These films dealing with a particular vocation encourage more unbiased evaluation of one's self. Only too often do we find that direct criticism is ineffective and even harmful, but by an indirect method, such as identification, the students frequently

come to analyze themselves more objectively by seeing themselves in the roles of other people.

Films dealing with specific vocations, as those mentioned above, bring the worker and his job into the classroom in a lively demonstration for prospective student workers to observe. Many realize for the first time that there are some unattractive as well as attractive features about the job. They are reminded that the monthly paycheck is not for the worker's interest in the job alone, but rather that it represents services he renders on the job. Students seeing this type of film are shown more specifically, and in more detail, that a given job calls for specific qualifications and duties, and that only a particular type of person can expect success in it.

Counsellors are advised to inquire about "how-to-do-it" films developed by industrial organizations which use them as an educational medium for in-service training of their employees. These can be valuable in studying vocations which require apprenticeship experience before promotions to more responsible positions are made.

Class discussion, after showing a film which presents one vocation for study, can include such facts about it as suggested in the following form.

1. Name of the vocation:
2. Description: duties on the job
3. Requirements: Age Sex Intelligence
   Personality characteristics:
   Education: degree, certificate, or diploma
   Recommended and required courses
   Training: Recommended or required work experience
4. Earnings: Initial When successful
5. Demand: Present trend Future trend
   Where employed
6. Advancement opportunities:
7. Advantages of the vocation:
   Disadvantages of the vocation:
8. State legislation specifically related to this vocation, if any.

9. Three vocations closely related to this vocation:
10. Hobbies, pastimes, etc., related to this vocation:
11. Recommended references: exploration of vocation by reading, personal interview, and others.

Evidence of what a class of students can do in making its own film is exemplified by *Is There Room for Us?* This film was made by Vocational Orientation classes at the University of Minnesota. Without any technical assistance from the outside, students made an exceptionally good film. The commentary of the film was later provided by Dr. Malcolm MacLean, then Director of the General College. The University and other institutions use this film frequently. It is available on a rental basis through the University's Department of Visual Education. The University of Minnesota finds it suitable as a medium to start exploratory studies and discussions in vocational classes at the beginning of the term. This film carries some general comments about the organization of the General College and the purpose of the vocational orientation area in the framework of a program in general education. In passing, this is one of few films available which incorporates to some extent the counselling idea.

Today there is an increasing number of film producers who are interested in making films in cooperation with special interest groups. Their services are especially suitable to groups with limited resources and money. They can render expert assistance along such lines as modern techniques of staging, editing, directing, and filming. A class project in film production is an effective practice in guidance. A vocational orientation class might well consider the benefits to be gained from a project concerned with a particular vocation or vocational area. Some of the general content for such a film should include such information as suggested above. Another effective guidance project for a group interested in vocational guidance is the making of slides. This type of project is more appropriate for groups with the very minimum of resources and money. Especially promising is the availability

of services from film producers to groups interested in making films or slides concerning topics of wide acceptance and general interest.

Guidance Films in Personal and Social Problems

Group counselling as an effective method in guidance is not limited to the area of vocational problems alone. Group therapy, involving the mechanisms of identification and projection with reference to films, is equally suitable to the area of more personal and social problems. Here, too, as in vocational guidance, there are needs which are common among students in college and high school, problems of characteristically similar aspects, which makes them conducive to analysis and treatment in group discussions.

When over 300 students in the Basic College of Michigan State College were asked to list specific areas in which they felt a need for guidance, non-vocational areas were mentioned with high frequency. The survey revealed a need among college freshmen and sophomores for guidance in the areas of acquiring better study habits, suggestions for making friends, alleviation of inferiority, insecurity, or self-consciousness, and learning about accepted procedures of social convention.

As mentioned previously, film information published by film producers and information from such indexes as the *Educational Film Guide* can be used with considerable value to counsellors and teachers in directing them to films which are suitable for instructional purposes along the line of personal and social problems. Although the list of films is not as extensive in this area as it is in vocational guidance, it is sufficiently extensive to make analysis worthwhile.

Films dealing with the topic of personal maladjustment are unique in educational value for several reasons. They can present a whole problem situation in an organized, concise, and interesting manner, which, when presented to a large group or class, can be analyzed and discussed more effectively than by

any other method of presentation which might be used. The presentation of the whole problem makes it possible for the group to study the origin of conflict, the symptoms which the maladjusted individual exhibits, the developments of the problem, and perhaps the possible solutions. Various psychological mechanisms as reactions to specific problem situations can be shown in a most interesting and lively presentation.

One advantage of the use of films in the classroom and guidance programs in general is the opportunity to promote greater objectivity in looking at all movies. This applies particularly when cuttings from standard Hollywood productions are used to emphasize specific points in the educational program. For example, a movie sequence may well illustrate such things as social pressure, the interaction of people in crowds, the way in which an individual reacts to a barrier, and so on. Any one of these topics may be within the province of the classroom situation, but the dramatic presentation of this material emphasizes the point under discussion much more than reading or talking about it. Moreover, through gaining this kind of experience in analysis and objectivity, the student observes other movies, which he normally attends anyway, with greater understanding. There would appear to be some transfer from the classroom to other situations. This is borne out by the fact that, after seeing a few movies of the type referred to, students make numerous suggestions based on sequences in movies they have recently seen which they think would illustrate even better the material they have been discussing. There is a real question, of course, whether or not such objectivity carries over to real life situations. Training in recognition of personal problems and group interaction would seem to point toward that end.

Film presentation of a person-problem situation is particularly effective therapy in that students are given an opportunity to evaluate themselves more objectively by seeing others reacting in a problem situation similar to their own. Films can

be used as therapeutic techniques in group counselling. The use of films in treating social-emotional-personal problems already promises much. Occupational and musical therapy are recognized professional fields; audio-visual therapy has many possibilities of emerging as a new area of specialization. Aristotle wrote of the cathartic effects of the drama. Today, thanks to Freud and other psycho-analysts, we know of additional effects which accompany the perception of events outside ourselves. Two prominent forms of perception may take place in the use of the film: identification with admirable roles that satisfy our inner needs, and projection of unwanted aspects of ourselves in the less admirable roles. Thus in the first process we fulfill our wishes of what we would like to be, and in the second, we rid ourselves of unacceptable personal characteristics. Under the supervision of competent therapists, maladjusted individuals may be aided in their adjustments, particularly as they are stimulated to talk about themselves more freely and as they learn to objectify negative aspects of themselves.

Frequently the keynote to maladjustment is subjectivity. It is not uncommon for individuals to remain subjective either because they do not know how to be otherwise, or because they do not welcome criticism from others. Films, as they affect identification and projection on the part of the film audience, can help individuals to help themselves as most people prefer to do in problem situations.

Probably no type of film can be used more effectively in the area of personal and social problems to stimulate student interest and group discussion than the so-called "provocative film." This type states the problem, gives alternate solutions, but leaves the question for decision by the film audience. The value of such a film can be recognized in that it presents the whole problem situation and gives the student audience an opportunity to practice analyzing problems more objectively. This practice in problem-solving activity can be useful to stu-

dents when they use this approach in solving their own problems. Examples of this type of film are *You and Your Friends* and *You and Your Family.*

It needs to be reemphasized that the use of films alone may be not only ineffective and meaningless, but the very purpose of the study unit may be unrealized. In all cases, either introductory material or material following the film must be used. Generally, introductory material must be used as a method of preparing the group for the film. Students must be prepared for the film if it is to be meaningful. Most important is the fact that the film must be closely related to the subject being studied.

1. *Use of films in teaching good study habits*

The students in the survey mentioned above had previously had the experience of seeing films presenting the topic of study habits. Their reactions were very favorable to the films *Memory Tricks, Improving Your Reading,* and *How to Study.* Assignments in the textbook and reference bibliography were discussed, and a brief lecture preceded the showing of the film. After the film was shown, these students discussed the film in small groups numbering about thirty or thirty-five each.

Improving Your Reading deals with study habits, particularly reading. The atmosphere for reading, increasing reading rate, factors in reading comprehension, and poor reading habits are some of the topics presented.

Memory Tricks is not only informative but interesting. The film audience is given a memory test as the film presents the situation in which a man is sent on an errand requiring the memory of ten items. The audience is quizzed before the narrator reveals the technique of association which enabled the man to recall the ten items. The film illustrates how, for example, mnemonic aids can reenforce memory.

How to Study is most adaptable to high school groups, but is in part useful to college students. The film makes sug-

gestions about organizing one's time for study, scanning the assignment rapidly before beginning to read intensively, using the library to gather material for a class paper or report. English classes in high school should find this film profitable.

2. *Use of films in meeting the personal needs of students*

There are a number of films which can be used in dealing with various topics in the psychology of personal adjustment. When a film presents a theme about personal conflict, the audience is given an opportunity to apply methods of problem solving which are being studied. The general method of recognizing alleged symptoms of maladjustment, finding the cause vior can be studied more effectively. Furthermore, students may benefit from this practice and learning as it is transferred into life situations where they are better prepared to analyze and solve their own problems.

The Boss Didn't Say Good Morning is a psychological film illustrating the extent to which an individual is undesirably affected by one seemingly negative experience. An employee manufactures his own conflict when his boss passes by him without saying good morning. The employee misinterprets his boss's neglect as dissatisfaction with his work. His inner conflict manifests itself overtly in his work and in his marital maladjustment. This film presents a good example of conditioned responses which not only characterize the conflict situation presented in the film, but many other student problems as well.

If I Had A Million deals with the psychology of insecurity. The role of the film character is that of a timid, overworked salesman who, with a change of circumstances, is influenced to express rather than control and repress his emotions. The film emphasizes the need for self-confidence, a trait important in all problem situations. The film observer is stimulated to react with a good deal of identification, which makes the film especially suitable for classroom use in dis-

cussing the general topic of the psychology of personal adjustment.

For another emphasis, *Four Daughters* can be used effectively to show the effect of environment in the formation of personality and personal adjustment. The fact that the picture is a specially prepared excerpt from the feature-length production of the same name makes this film doubly interesting as well as informative.

No study of personal adjustment would be complete without some reference to the study of normal personal adjustment. Why we act as we do is a common question indeed. The film *This is Robert* shows why Robert, an aggressive and difficult but likeable boy, behaves as he does. The film reveals through the use of projective techniques how Robert reveals his basic needs and attitudes through language behavior. The theme is a broadly applicable one and can be used in stimulating classroom discussion. This is an educational film best used with advanced classes.

There is a relatively large number of films which can be useful in studying the psychology of personal needs. Cuttings of Hollywood productions make the list of films in this area virtually inexhaustible. The casts of famous players and the consequent quality of dramatics adds considerably to the effectiveness of these films.

3. *Use of films in meeting the social needs of student*

One's personal attitude or behavior toward other individuals or groups of individuals or social conventions to a great extent determines his adjustment or maladjustmet as a social being. The range of his tolerance or intolerance, his like or dislike for the group, his identification with or rejection of other individuals all reciprocally influence the pattern of behavior which will be directed toward him. Social expectancies cannot be ignored without ill effects. What an individual does "does matter." Films can be used effectively in this area with high school and college groups to show through the use of

vivid picture experiences how one's social welfare can be enriched by learning about the conventions which tend to make people similar and social interaction easier. In dealing with topics of social conventions, films can present information in a stimulating and interesting manner while presentation by other methods, especially verbal treatment, is "dry" and uninteresting to students.

Dinner Party is an excellent medium by which the topics of table manners can be presented to high school and college groups. Being a "provocative film" makes it especially suitable for classroom use. Three couples who possess varying degrees of self-confidence and skill are shown at a semi-formal dinner party. This presentation is particularly useful as a projective technique, causing the film audience to identify themselves with the characters possessing a corresponding amount of social intelligence and confidence. Interestingly, this film raises many questions but does not answer them. Decisions may be left to class discussions, which students might prepare for by consulting appropriate references for information.

Junior Prom is adaptable for the junior and senior high school levels. This film deals with dating and proper social conduct in general at the high school age level. Not unlike *Dinner Party*, this film has therapeutic value of audience identification, although not to the degree found in *Dinner Party*.

How Do You Do, a film for high school classes, is excellent in pointing out that we sometimes miss the fun of life by not being certain of ourselves in social situations, and demonstrates some of the major rules to be observed in one such situation—introducing and meeting people.

The House I Live In is a film dealing with the topic of social prejudice. It is suitable for elementary, high school, young people's church groups, and adult study clubs. This film emphasizes as its aim that "America is a nation made up of a hundred different kinds of people—a hundred different

ways of talking—a hundred different ways of going to church —but they're all American ways."

The four films mentioned above are useful not only in encouraging verbal discussions in high school but also written expression in the form of English compositions or playlets which can be presented in assembly.

High school and college groups react favorably to *We Do It Because.* This is one of the Passing Parade Series which deals with the origin and explanation of various social customs. This film might be used to motivate study along the line of customs characteristic of the community in which students live. With the enrollment of many foreign students on the college campus, this film might be considered for its motivational value.

Of course the standard Hollywood productions and cuttings or excerpts of productions should be reviewed for their dramatic and vivid presentation of this subject. Objective analysis of films seen in the classroom does to some extent transfer to more critical observation of films frequently seen at the community theaters. Thus classroom films definitely instill in students an awareness of the topics they studied in the classroom. This transfer can frequently motivate students who otherwise would be disinterested because the topic being discussed "doesn't make sense."

In conclusion, it should be emphasized that the counsellor should preview a film before showing it to the group. Frequently a film may deal with a topic appropriate for a given group level but it may be portrayed by younger or adolescent characters with whom the group finds it difficult to identify itself. Here the instructor or counsellor may point out it is not the characters presenting the topic but rather the topic being presented with which they are concerned. Being informed about the film content beforehand enables the supervisor to prepare himself and his group for the film.

DIRECTORY OF PRODUCERS AND DISTRIBUTORS OF THE FILMS REFERRED TO IN THIS CHAPTER

(*In the order of reference*)

Using the Classroom Film
Encyclopedia Britannica Film Inc., 20 N. Wacker Dr., Chicago 6, Illinois.

Finding Your Life Work
Carl F. Mahnke Productions, Des Moines 10, Iowa.

Of Pups and Puzzles
Teaching Film Custodians, Inc., 25 W. 43rd Street, New York City 18.

Educating Father
New York University Film Library, Washington Square, New York City 12.

Greener Hills
Teaching Film Custodians, Inc., 2 W. 43rd Street, New York City 18.

Honesty Is the Best Policy
Religious Film Association, Inc., 11 W. 42nd Street, New York City 18.

Choosing A Career
Board of Education Film Council, 228 N. LaSalle Street, Chicago 1, Illinois.

Aptitudes and Occupations
Coronet Instructional Films, Glenview, Illinois.

Journalism

General Agriculture
Carl F. Mahnke Productions, Des Moines 10, Iowa.

How to Make a Sales Presentation Stay Presented
Modern Talking Picture Service, Inc., 9 Rockefeller Plaza, New York City 20.

Men of Medicine
March of Time, 369 Lexington Avenue, New York City, New York.

I Want to Be a Secretary
Coronet Instructional Films, Glenview, Illinois.

The Electrician
Carl F. Mahnke Productions, Des Moines 10, Iowa.

Assignment: Tomorrow
National Education Association, 1201 16th Street, N. W., Washington 6, D. C.

Is There Room For Us?
University of Minnesota, Bureau of Visual Education, Minneapolis 14, Minnesota.

You and Your Friends
You and Your Family
Association Films, 345 Madison Ave., New York City.

Memory Tricks
Teaching Film Custodians, Inc., 25 W. 43rd Street, New York City 18.

Improving Your Reading
Teaching Aids Exchange, P. O. Box 1127, Modesto, California.

How to Study
Coronet Instructional Films, Coronet Bldg., 65 E. South Water St., Chicago 1, Illinois.

The Boss Didn't Say Good Morning
Teaching Film Custodians, Inc., 25 W. 43rd Street, New York City 18.

If I Had a Million
Four Daughters
This Is Robert
New York University Film Library, Washington Square, New York City 12.

Dinner Party
Junior Prom
Simmel-Meservey, 9538 Brighton Way, Beverly Hills, California.

How Do You Do

The House I Live In

Young America Films, Inc., 18 East 41st Street, New York City 17.

We Do It Because

Teaching Film Custodians, Inc., 25 W. 43rd Street, New York City 18.

PART THREE

The Educational Film Outside the Classroom

CHAPTER XVIII

FILMS FOR FILM FORUMS AND ADULT GROUPS

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Although the use of motion pictures for educational purposes in schools and colleges has been increasing steadily for more than two decades, it is only within the past few years that they have been used at all extensively as an integral part of the education programs of adult groups. For some time, of course, men's and women's clubs, group work organizations, churches, libraries and museums, and similar institutions engaged in work with adults, have, as their resources permitted, employed films in their respective programs to entertain, to inform, to encourage appreciation and evaluation of the motion picture as an art form; to inspire, to provide a "cultural experience." But until recently, this has been as far as most of them have gone.

Films have been used also quite openly as "bait" by many adult education organizations: a means of attracting people to a serious educational program which they would not otherwise be apt to attend.

For many years, too, films have been used either as the basis of, or illustrations for the "educational" lectures (usually travelogues of one kind or another) that are still standard fare for many adult groups and organizations.

It was not, however, until the so-called "documentary" films began to make their appearance in the 1930's that any

sustained attempts were made to discover just how this new medium of communication might best be adapted to the education of adults. A good portion of these pictures, the ones that excited the most comment, like *The Plow That Broke the Plains, The River, The City,* dealt with social and economic problems. These problems were controversial in nature and, although the better films confined themselves to an exposition of the facts, to the graphic presentation of information, they often suggested, directly or indirectly, a number of issues that called for further examination. Leaders of adult groups using these films were not slow to see the value of having a period for general audience discussion following a showing. Soon these meetings at which films were screened and then discussed were being called "film forums."

The film forum has been termed a new technique in adult education. In very real sense it is, but it might be more accurate to call it the wedding of two techniques: that of the new and exciting medium of communication, which is the motion picture, with one of the oldest and most reliable of all adult education techniques, the forum discussion method. In the film forum, the motion picture replaces the speaker (or speakers) who, in the traditional forum, is called on to present relevant background information on the subject under consideration, to state the issues that are present, and usually, to take some position with respect to them.

In short, the film, when used to provide a background for discussion, is called upon to give the members of an audience or group some common experience with a given subject. This common experience ideally should be of such a nature that it raises questions but does not answer them, suggests issues but makes no attempt to resolve them.

There has never been any question about the ability of films to provide an audience with a vivid common experience. The difficulty, as the early experimenters with film forums soon discovered, lay in the fact that there was all too seldom

anything in this common experience that moved people to discuss the subject under consideration. The reason, of course, was at once obvious: films weren't made with that purpose in view. They were produced to entertain or to convey information, to persuade people to approve certain social or economic policies, to convince them of the rightness of certain social activities. The issues that they posed were often not immediately apparent.

Film Discussion Guides

To get around this difficulty, those who were concerned with the promotion of the use of films as aids to group discussion began to prepare analyses of films intended for use in forums. These usually included, in addition to pertinent information about the film (producers, running time, date, etc.), a short summary of the content of the film, a list of some reading references: books, periodical articles, pamphlets, etc., on the subject. Some of them, like the movie discussion guides produced just before the Second World War by the American Association for Adult Education, also carried suggestions for handling a group discussion.

The early film discussion guides tended to be rather lengthy, containing in addition to elaborate descriptions of film content and detailed lists of possible questions for discussion, a considerable amount of factual material of one kind or another relating to the subject. In recent years, however, the trend has been toward the preparation of short, compact leaflets that can be easily and quickly read. The discussion guides prepared a few years ago for the YMCA Motion Picture Bureau's series of Filum Forums for Americans were brief four-page affairs. Guides used by the National Film Board of Canada in connection with their Farm and Labor Film Circuits have often been confined to a single page.

Although most of the discussion guides have been prepared with a view to their use by leaders of film forums,

several attempts have been made to develop discussion guides which might be used by group members as well. In the course of the Library Film Forum Project, conducted 1941-43 by the Joint Committee on Film Forums, two different kinds of guides were employed: one designed for use by the discussion leader which contained questions, suggestions on techniques of leadership and information relating to the subject, and one designed for use by the members of the group. The latter was a single page, listing only questions for discussion.

Discussion Trailers

During the war years the National Film Board of Canada developed still another means of adapting films to discussion situations. Short "trailer" films (ten minutes or less) were prepared to be used in connection with the presentation of documentary films like *Food—Secret of the Peace* and *Tyneside Story* which dealt with social questions that warranted discussion. These trailers usually pictured a group of people in the act of discussing the problems that had been raised in the preceding film. Care was taken to bring out major conflicting opinions, and in the end the 'live' audience was usually invited by the chairman of the group in the trailer to continue with the discussion.

What is a Discussible Film?

The discussion guides, discussion trailers and other devices that have been used from time to time to adapt films to forum use have only, in the long run, served to focus attention on the central question that is being asked more and more frequently as the demand for films for forums grows: what is a discussible film? Why are some films intrinsically better as inciters to discussion than others? For even when bolstered up by discussion guides and trailers, it was found that some films simply had no contribution to make to a group discussion.

In 1946 the Institution of Adult Education, Teachers Col-

lege, Columbia University, after some preliminary investigation in this field, established a Film Laboratory and set out to discover at least a tentative answer to this vexing question. After considerable experimentation the Institute staff came to the conclusion that a film that is to be used as an aid to discussion must (1) present a human situation and a point of view relevant to the discussion topic; (2) arouse and sustain interest by its dramatic and artistic quality; (3) have photography and sound of a quality good enough not to interfere with comprehension and enjoyment of the film content; and (4) be short enough, preferably between 10 and 25 minutes, so that the group can retain the film content and have adequate time for discussion. With these factors in mind the staff then developed an experimental "evaluation form"* which is being used in the selection of films for inclusion in the *Film Forum Review* (a quarterly periodical published by the Institute in cooperation with the National Committee on Film Forums).

Producing Films for Forums

If the criteria developed by the Institute stand up under the extensive field tests that are now being given them, and if the number of groups conducting film forums continues to increase at the present rate of growth, it can be confidently predicted that films truly suited to discussion purposes will soon begin to make their appearance. For then the two questions that film producers always asked when taxed with failure to produce usable discussion films: What do you want in them? and Is there a market for them? will be in large measure answered. Until then, groups using films for discussion will have to be content with improving their methods of selection and their techniques of adapting films that are now available. As a matter of fact, an increasing number, it should be observed, measure up very well to the criteria suggested above,

* This form is reproduced in full in the article "Is This Film Discussible?" by Robertson Sillars, *Film Forum Review,* Winter 1946-47, pp. 5-6.

and are in themselves admirably designed to provoke spontaneous group discussion of certain subjects.

Some of the films in the "Human Relations" series prepared a number of years ago by the Commission on Human Relations of the Progressive Education Association, under the direction of Alice V. Keliher, fall into this category. These pictures, which were short (15 minute) excerpts of well-known Hollywood productions (*Fury, Black Legion, Alice Adams, Oil for the Lamps of China* and others) were well defined episodes, each illustrating some particular human problem. These excerpted pictures in which film sequences of considerable dramatic force put together with great skill, were calculated to pose questions which were left unanswered, and thus fulfilled practically all the requirements laid down for a discussion film. Unfortunately, until very recently they have been restricted almost entirely to school use, and in consequence there has been little opportunity to test the response of adult discussion groups to the films.*

A more recent attempt to develop films for discussion purposes has been made by the Motion Picture Bureau of the YMCA in cooperation with *Look Magazine*. These two organizations produced in 1946 the first film of a projected series to be collectively entitled "The Art of Living." Each film focuses on a problem involving a specific social relationship, illustrates various possible solutions to the problem and leaves the matter open for further discussion. Like the films in the "Human Relations" series, they are designed primarily to stimulate discussion in high school classrooms, but some of them, the initial *You and Your Family,* for example, which is built around difficulties between parent and child, already have demonstrated their usefulness in film forums on parent education. The chief danger of this method lies in the temptation it presents to overemphasize the personalities of the people

* They were used once in connection with an experiment which Dr. Keliher conducted with groups of women affiliated with the Peoples Institute, Brooklyn Neighborhood Guild, but the results were far from conclusive.

shown and to overcharge the scenes with emotion. However, some films that have been released as a result of the two ventures noted above have already demonstrated beyond doubt that this approach can be an effective aid to discussion in certain subject areas.

By and large, documentary films are still the easiest to adapt to discussion purposes. Some of the more recent ones, like *Children of the City,* that admirable investigation of juvenile delinquency in a large industrial city, *Whoever You Are,* which explores the problem of intolerance in a neighborhood in New York City's West Side, and *And So They Live,* that moving, beautifully filmed "report" on family life and education in the Kentucky mountains, betray considerable evidence of progress in the direction of "forcing the audience to resolve the film situations, and pointing out alternate possibilities calling for a choice."[1]

Film Forum Leadership

Whether or not an audience succeeds in "resolving the film situations" that are presented, or whether it fully understands the "alternate possibilities" that are implicit in a forum film, will depend upon how skillfully it is led in the discussion that follows the showing of the picture. And in this connection it should never be forgotten that in a film forum it is what happens *after* a film is shown that counts.

Etta Schneider Ress, in her doctoral study of library film forums[2] conclusively demonstrates that "All of the principles that would apply to a good forum must apply to a film forum," and she adds that, of these, the utilization of competent discussion leadership is beyond doubt the most important. From the moment the lights go on after the film showing, the success or failure of the film forum rests largely in

1 "Producing Discussible Films" by Sherman Price. In *Film Forum Review,* Fall 1946, p. 19.

2 "Film Forums in a Public Library," Teachers College, Columbia University, 1944, unpublished ms.

the hands of the leader. He must gain the group's confidence and put the members at ease. He has to get the discussion started, keep it going as long as the exchange is profitable, and bring it to a conclusion when interest lags. He must be sensitive to group reaction and careful to have stated all sides and views on the topic under discussion.

It is up to him to interpret ambiguous questions, to check extended "speeches," to keep the discussion "on the target" by ruling out irrelevant remarks. He has to be tactful and patient, fair and impartial in recognizing the right of all members of the group to speak.

A discussion leader, however, does not have to be an expert on the subject under consideration. If experts are needed, they should be used as resource people, on hand to answer factual questions, but not in a position to dominate discussion.

The discussion leader's first and perhaps most important job is to get the discussion underway. An awesome gap always yawns at the conclusion of any film showing. Films cast a spell upon people. Even when the picture is provocative and the issues for discussion fairly clear cut, it takes time for the members of any audience to wrench themselves out of the film-imposed inertia, reflect upon what they have seen and heard and decide where they stand with regard to the problem presented. At this critical juncture in any film forum a leader may do one of several things.

He may sum up the information or the situation that has just been presented on the screen and state, in a challenging manner, one or more of the issues that have been suggested. Or he may call upon members of a previously selected panel to initiate the discussion by engaging in an informal fifteen or twenty minute exchange of views. (Where the film trailers are available, one of these may be used for this purpose.) Or he may depend upon individuals "planted" throughout the audience and given some advance preparation, to launch the discussion.

Film Forum Planning

But the job of conducting a film forum is not, as a rule, confined exclusively to discussion leadership; in addition, the average forum leader must also assume responsibility for the arrangements which must be made in advance of the meeting. It is up to him to see that the room is suitable for a film showing; that it can be darkened easily; that seats can be arranged in such a manner that all members of the audience have a clear view of the screen. It is up to him to select a film that is suitable to the topic that has been chosen for discussion, to book it well in advance of the meeting, and to screen it at least once prior to the meeting. And finally, it is usually his responsibility to arrange for a projector and competent projectionist.* All of these operations require careful advance preparation, which is why film forums have to be the most completely planned of all types of group discussions. Nothing can be left to chance if the presentation, upon which the discussion is to be based, is to come off successfully.

Growth of Film Forum Movement

Despite the relative difficulty of presenting forums based on films, this new technique of adult education has become increasingly popular in the postwar period. As more and more organizations of all kinds equip themselves with projectors, and as some of the major problems relating to the distribution of 16 millimeter films are solved, film forums may well rival traditional forums in popularity. Since they are especially adapted to medium sized groups (twenty-five to fifty people may be said to constitute the optimum group for this purpose), they can be employed in situations in which the "standard" forum technique is often out of place.

Ten years ago adult discussions based on films were con-

* See "Notes on Film Forum Management" by Glen Burch in *Making Films Work for Your Community*. Educational Film Library Association 1946, pp. 16-24.

sidered novelties. Today they are scheduled as a matter of course in programs sponsored by schools, public libraries, university extension, YMCA, YWCA, Jewish Community Centers, settlements, farm and rural groups in all parts of the country. The movement received its greatest initial impetus in 1941 when the Carnegie Corporation made a grant to a group of national associations to conduct a series of experimental film forums in selected libraries in this country. The organizations concerned were the American Library Association, the American Association for Adult Education, the American Association for Applied Psychology, and the American Film Center. Representatives of these groups formed a Joint Committee on Film Forums, which employed an executive secretary, set up goals and procedures for the project, and provided films and discussion aids for film forum programs in over forty libraries. While not an unqualified success in every way, the project performed an important pioneer service. It not only stimulated the use of films as educational tools in public libraries, it also brought the term "film forum" into general usage. It evolved one of the first widely used manuals on film forum management. It attempted the development of criteria for the selection of films suitable for forum use and created instruments for the evaluation of films and of film forum discussions. It also produced, as has already been noted, new types of film discussion guides.

When the Committee completed work on the Library Film Forum project in 1944, some of the members felt that its usefulness was just beginning, and a new Committee composed of representatives of the American Library Association and the American Association for Adult Education invited two other organizations, the Educational Film Library Association and the National Council of the YMCA to establish a National Committee on Film Forums to further promote the use of films as aids to adult education. Shortly after this, the new Committee joined with the Institute of Adult Education in

publishing the quarterly *Film Forum Review,* a periodical devoted to news of film forums in various parts of the country, and to reviews of films suitable for discussion. Discussible motion pictures selected by the Committee are currently identified as "forum films" in the H. W. Wilson Company publication, *Educational Film Guide.*

One of the most promising evidences of the growing interest in the educational use of films in adult groups is to be found in the formation in 1946 of the *Film Council of America* whose purpose is "to increase the information and work toward the general welfare of all people by fostering, improving and promoting the production, the distribution and the effective use of audio visual materials." This organization, which recently received a two year grant from Carnegie Corporation of New York in support of its efforts, has already helped establish more than one hundred community film councils in this country. These local councils sponsor community film forums, workshops on technique of film use in adult groups and promote the evaluation of films for community use.

Active film forum projects are now being conducted in scores of communities throughout the country. In Chicago, a Film Workshop made up of representatives of adult education groups in that city has been active for some time in the development of film-based discussion programs. At the University of Wisconsin, a full time field worker has been added to the staff of the University's Bureau of Visual Education to promote film forum activities throughout the state. In California the Department of Education's Bureau of Visual Instruction is cooperating with the Department of Adult Education in sponsoring nine experimental film forums in the northern and southern parts of the state.

The University of Virginia Extension Division found that the use of educational films in connection with its rural program, designed to "help communities help themselves," constituted a most effective technique in reaching people in back-

ward communities. "No device we have found is more rewarding than the film when carefully used as one step in the educational process."[3]

In Canada, the idea of a "town meeting of the screen" prompted early film forums in community halls of small prairie towns and one room schools in remote regions. Stanley Rands, writing about the experiences the National Film Board representatives had in getting them started, sums up very well the whole case for the film forum as an adult education technique: "The film forum, like the radio listening group, makes it possible for the mass medium to give a group experience which is socially positive and creative. Adult educationists and community workers are realizing that the full benefits of the film as an educational instrument will be felt only if serious attention is given to the development of effective methods in group utilization. It is this translation of mass messages into group experiences, providing a participation that goes beyond passivity, which is the key to the democratic use of modern instruments of mass information."[4]

3 "Bringing Films to Smaller Communities" by Jean and Jess Ogden, *Making Films Work for Your Community*, op. cit. pp. 41-48.
4 "Film Forums and Community Action" by Stanley Rands in *Film Forum Review*, Fall 1946, pp. 6-8.

CHAPTER XIX

THE FILM TRAINS INDUSTRIAL WORKERS

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A consideration of the film as a means of training the industrial worker requires a careful analysis of each factor involved, namely, the film, the training and the worker. Earlier chapters have given us a viewpoint relative to the film as an educational tool, as well as the learning factors involved in the use of this type of tool. However, each new type of audience, or learner, presents new problems. Further, every learning situation has its own objective, and every new tool is designed to meet its own purpose. Thus, it should be clear that a discussion of the place of the film in a training program for industrial workers necessitates a proper perspective of the worker himself and the purposes for which he is to be trained. The fewest mistakes will be made, at least, if the basic coordination between audience and purpose is maintained.

Although we are basically considering at this point the educational film outside the school classroom, we must be aware of the fact that the industrial worker is once again "going to school," and much of this training is now, to an increasing extent, being conducted within the classroom. We must rapidly adjust our thinking to the educational concept of "continuity of learning throughout life." This, naturally, includes the working-earning period of a man's life when he is known as an industrial worker. It is likewise the

period of adulthood, and thus all training programs of whatever purpose should recognize basic principles of adult education when being set up for industrial workers. Simple recognition of the fact that these learners who are "going-to-school", or taking some kind of a job training, are men and women with problems of home, health, food, clothing, shelter, finances, family and a multitude of other problems of daily living, contending for a place in their thought at the same time. They are adults with problems of adults. They want to learn in order that they may improve and advance, but their learning time is limited as well as the thought they can give to their training problems. Thus, training must, in general, be presented in a concentrated, purposeful, simple and direct manner, with an economy of time. Recognition of the average level of academic achievement for approximately 85% of all industrial workers at less than high school education, and approximately 13% at less than sixth grade attainment, will no doubt enter into the thinking of those who plan the training programs.

However, time, coupled with the problems of adult living, has provided new incentives to learn. The traditionally accepted measure of learning capacity, based upon some previous mark or level of academic and formal school achievement, must be radically modified. The incentive of the learner and the immediacy of the end result of his training combine to force the "ceiling" of his capacity upward. This tendency to place a ceiling on the capacity to learn and to be trained by those who dealt with industrial workers in the past has had to give way to the more human and psychologically correct view that "there is no saturation point in education"—a philosophy expressed and maintained in a large modern industry by one of the great industrial leaders of today.[1] Much of the job of promoting this philosophy is being carried on by those who

[1] Thomas J. Watson, *Men, Minutes, Money* (a collection of addresses published by International Business Machines Corporation).

are fostering adult education in its many forms. Happily the development of "New Tools of Learning" has gone hand-in hand with the development of the concept of "Learning Unlimited," each no doubt accelerating the other. Among the new tools of learning found being developed and used wherever audio-visual aids have been accepted, stands the film, unique in its position of importance, accomplishment and leadership as an educational tool.

The film holds this position of importance in the training program for industrial workers primarily because it meets the requirements for teaching adults individually and in groups. Its effectiveness for group instruction is enhanced by the fact that the individual in the group can concentrate on the materials of instruction in a *personal* manner. The film becomes an "individual tutor" regardless of the size of the group being taught by it. This individual factor is important to the adult trainee. It fits into his needs for a concentrated, simple, direct, and economical training program. The superfluity of words and extraneous and digressive materials have been cut by the film producer to a degree not experienced by the learner in listening to a lecturer or demonstrator. This economy of the learner's time, plus the purposefulness of the materials presented, gives the film an effectiveness in lifting the ceiling for adult training that is difficult to match in other tools or methods.

A further degree of effectiveness is achieved in the very nature of the materials of instruction found in the film. The film producer who has coordinated his objectives with his audience in a proper manner has produced a tool that fits the job. The industrial trainee finds himself viewing and listening to a type of instructional material that he can understand. He feels that it is tailor-made for him. He finds that his previously conceived ceiling to his own ability to learn has lifted. Confidence is restored because he now understands, and this new understanding is due to instructional materials and

methods being built and presented in terms of the learner or trainee. This matching of a given level of intelligence with training materials built to this level is possible in the film to a degree not readily attained in other types of instruction materials. Inherent in this attainment, of course, is the fact that the trainee is being presented pictures which permit him to do his thinking with materials for which he is psychologically endowed to use. When he is given the sound track, or words to hear, he is being presented a coordination of the two major factors constituting the mental equipment with which he thinks, in a concentrated, simple, direct, and economical manner. This again fits into the pattern for adult learning most efficiently.

Justification of the use of the educational film is unnecessary, but justification of its use in training industrial workers appears necessary in many quarters. The battle is not wholly won nor will it be until clarification of objectives in industrial training programs is more complete. Film evaluation, in terms of objectives, personnel to be trained, and methods to be followed, offers challenges to the directors of education in industry. Both effectiveness and efficiency in the training of industrial workers will force this group of educators to make this evaluation. Costs in industry, wherein the expenditure of the educational dollar is as closely watched for its profit-producing quality as the expenditure of any other item in production, reflect the vigilance of constant evaluation. The search for new tools and methods is axiomatic to the successful industry. Thus, new tools of learning, the film in particular, must find their way into the training program. This evaluation will disclose the lack of conflict of the film with traditional methods of instruction.

Traditionally, industry has given almost holy obeisance to the doctrine of "learning by doing" or that of "'experience is the best teacher," such that the educator in industry has in the past set up his program to function on the basis of "learn-

ing only by doing" or "experience is the *only* teacher." He has seemed to infer that the doing or experiencing by trial and error was a characteristic requirement of his particular field of training. These methods are frequently pointed out as the only really practical methods. Herein lies one of the greatest hazards to the development of a film program for industrial workers and one in which the implications are profound. However, proper understanding of the film as a tool of learning on the one hand, and a proper understanding of the learning processes on the other, will point the way to an acceptance of the film on the basis of its experience factor as well as the generally accepted informational factor.

It is almost trite now to state that the vicarious experiences learned by our Armed Forces through the film program gave them a mental set to perform those same experiences in a direct, emotionally prepared, muscular-neural coordinated pattern, for which there was no previous realistic experience or doing possible. That many educators in industry have found the same results from proper use of films in their training program also is somewhat trite. Many of the same men who worked in the war program have found their way into industry's training program and are gradually showing these same results. Recognition of the "experience" value of the motion picture is essential to its proper use. That the viewing of a performance gives the viewer a mental set which makes him want to exercise those same muscular-neural coordinations, must be recognized as an experience which fits into the adult learning requirements. The picture thus not only gives "meat to the bones of imagination," but gives the learner an opportunity for a preliminary rehearsal, before actually being required to perform.

The film further provides a type of instruction material that fits into the adult learning pattern of the industrial worker in its ability to present a topic, technique, or sequence of movements as-a-whole. By its very nature of portraying

only the essential elements of a series of details, the showing time of the average film, as compared with the actual full performance time, permits an assocation of ideas so closely related that the entire presentation is thought of as-a-whole. Again this meets the industrial worker's requirements for instructional materials in a concentrated, simple, direct and economical form. The flexibility of methods for using the film permits variations in the learning-by-wholes concept adapted to the learner's needs. The "silent or sound," "normal or slow motion," "repetition of run and re-run," and other combinations of use offer a variety of opportunities for presenting the training materials so that the topic, technique or sequence of movements may be best viewed and understood as a whole unit first, then followed by any breakdown deemed necessary.

The film from its earliest development found a distinct place in industry. Its power in advertising and acquainting the public with the products of industry soon carried into the field of instruction the most effective methods of using the products and in understanding the production processes behind the products. This same power to develop public understanding of products and processes was recognized as valuable in employee training. The march forward over the past thirty-five years, since the first films on accident and fire prevention were introduced, through the recent war years when the large number of training films were produced by the U. S. Office of Education, is testimony to the permanency of this tool of education in industry. Many factors have influenced the total use of the film in industrial training as well as in other more formal programs during this past period. Techniques in production, evaluation, methods of use, equipment, distribution, all have evolved parallel to the evolution in attitude of the educator and industrialist to this new tool of learning. It should be recorded, however, that industry set the pace for formal education throughout the entire early period of film use, and is making a strong bid for continued leadership. Evidence is-

accumulating in the various studies being made and in reports in current film periodicals on new industrial releases. One recent study shows that of 148 companies reporting the use of visual aids, 105 or 71% were using sound films.[2] This is apparently a fair indication of the place held by sound films among all visual aids as used in industrial training, although this number using sound films is but 44% of the 239 companies studied. Even this latter figure, however, will compare favorably with total use of films in other fields of training.

Training programs are set up under varying conditions, each industry adapting its methods and physical conditions to the immediate situation. Thus, classroom, training center, vestibule, and on-the-job-procedures are found usually in combination in the average program. This physical location of the training program is important to film usage. Where new locations are being set up, proper provision should be made in the modern training program for the showing of films. Likewise, the teaching plans outlined for industry during the war which provided for the four major steps in learning, (preparation, presentation, performance, and follow-up) offer distinct opportunities for the film to be included in the materials of instruction. These two primary aspects of the problem of film usage must be considered at the beginning of any training program, namely, physical equipment and lesson planning. Neither should be underestimated. Proper projection equipment and a proper projection room for this equipment to serve the audience effectively as an educational tool should be considered as one-half of the problem. The film as a medium of instruction properly supplementing the teacher and fitting into a carefully designed lesson plan is the other half. It is not the purpose of this discussion to deal with respective qualities of the various types of projection equipment. Suffice it to say

[2] *Studies in Personnel Policy, No.* 49, National Industrial Conference Board, Page 17.

that the total usage should be carefully considered in making selection, and the mechanics of projection carefully mastered by the one who makes the presentation. The maxim, "the show must go on" should be the rule to follow at all times. This means a knowledge of the projector, and an educational attitude toward it as a tool of learning by the instructor, regardless of who operates the machine. This knowledge and attitude are essential if the flexibility of the equipment in methods of adapting the film to the lesson plan is fully appreciated.

Wholly on-the-job training programs offer difficulties to projection methods of instruction. However, few programs are so absolute in the physical location that a modification to include a projection room cannot be included. In the study just cited, out of the 148 companies, only 13 were wholly "on-the job," whereas, 96 were a combination of classroom and on-the-job. Both the classroom and vestibule or laboratory type of location furnish, with proper modification, an opportunity for showing films, either as a separate unit of instruction or in coordination with a laboratory presentation. The projection room as a separate location and designed for uses other than training purposes only has long been a facility of many industries. Its inclusion in a training center, as a distinct adjunct to the classroom, laboratory, and general conference rooms, is more modern addition to the physical accommodations for training industrial workers. Such a training center, designed to include all the necessary training equipment, classrooms, auditorium, laboratory, projection room, conference rooms, lounge, etc., may be found in operation in a few[3] of the truly modern industrial training programs. Projection facilities are maintained on the basis of being an integral and necessary part of the materials for instruction. However, planning for proper projection facilities must include converting existing

[3] "Socony's New York Training Center," *Business Screen*, No. 6, Vol. 7, 1946; page 26.

locations into projection rooms suitable for training purposes, as well as the creation of new designs. It may be necessary to apply the title of "factory theatre,"[4] in order to establish proper coordination with other factory interests, but the basic function as a training center can still be maintained.

Training programs for industrial workers vary from simple on-the-job, manager-employee instructions, to rather extensive general, vocational, apprentice, job and institutional types of instruction. The film has found a place as an effective medium of instruction in all types of training. It may vary from short "loop" continuous-running silent films used on projection equipment brought directly to the worker on the job, to a series of successive operations presented on a number of reels of sound film with accompanying study guides or descriptive booklets. The subject matter for films used in the average training programs includes the following general topics as reported by a recent study:[5] Safety and Accident Prevention, Supervisory Training, Operative Techniques, Morale, Methods, Upgrading, Health and Hygiene and Institutional. The general objectives usually determined by industry for which films are presented to employees[6] are "Indoctrination" and "Specific Job Training," although the "Vocational" and "Informational" types of films are rapidly finding their place in the industrial training program as the horizon is extended and the ceiling is lifted.

The recent listing for public and industrial use of 730 sound motion pictures on 16mm film, presenting the skills and performance techniques in so great a variety, ranging from nursing to shipbuilding, must soon be felt as a powerful training factor in many industrial training programs. This collection of films was produced by the U. S. Office of Educa-

4 Newton, C., "A Visual Training Center is Converted From Employee Recreational Facilities," *Business Screen*, No. 2, Vol. 8, 1947, page 21.

5 *Studies in Personnel Policy*, No. 49, National Industr. Conf. Board. page 20.

6 "New Horizons for Business Films," Assn. of National Advertisers, A Report of the A. N. A. Film Study, pages 12-15.

tion, Navy and War Departments, U. S. Public Health Service, Civil Aeronautics and Veterans Administrations. The availability of this large volume of general and vocational training films should do much to stimulate a wider range of objectives than those of Indoctrination and On-The-Job only. The war incentive has been turned to the advantage of industry and its training programs. It remains for industry to make use of these instructional materials in a manner commensurate with the value of the materials themselves. Typical of the offerings to be found in films designed to give instruction in basic skills is the group listed in the *Educational Film Guide* under the heading of "Machine Tools." Here are to be found seventy-five films on basic machine tools and operative techniques in using them, averaging 16 minutes per film or a total of twenty hours of instruction by film on a one-run basis. Opportunity, not only to use films of this type in an established program, but to evaluate and test the efficiency and effectiveness of films in a proposed program, is now presented to industry.

Types of Industrial Films

A detailed breakdown of the objectives of existing films produced either by industry for its own specific purposes, or by some other agency for development of objectives, applicable to industry, will give fifty or more headings according to the intent of the examiner. It should be noted again that materials of instruction for the industrial worker, more particularly the film, must contribute in some manner to one or more of the three major purposes of all education, namely, knowledge, attitudes or skills. Films in industry may be grouped first under four major classifications—Institutional, Product, Employee, and Customer. The breakdown immediately discloses the overlapping of these classifications and the use of a given film for more than one major purpose. This coordination of use of the film for more than one purpose places a responsibility

on the training director for properly developing the planning and presentation of the material. Economy in use of materials demands this coordination of purposes, and the educational program demands proper planning to over-balance any loss in the use of material not specifically designed for the lesson at hand.

Under the heading "Institutional" are found the types of films which Management apparently feels are basic to the understanding and appreciation of the business itself. Policies, personalities, and the development of the industry must be perpetuated in some manner in the mind of the employees in order that understanding, loyalty and proper attitudes will persist. The dramatization and documentation of events of the industry can accomplish this purpose best through the medium of the film. Thus, films dealing with the following purposes are generally classified as Institutional, Historical, Documentary, Indoctrination, Orientation, Organization, Stockholder's Reports, Related Scientific Developments, Supervisory Practice, Manufacturing Processes, Related Occupational Procedures, Public Relations, Product Promotion, etc. The value of such films for attitude purposes is rapidly being recognized although much desirable information is also usually incorporated. The principle that "public relations begins at home" is one that should not be minimized when planning the training program for industrial workers. Such a coordination of purposes may be found in the films *Unfinished Rainbows,*[7] *That the World May See,*[8] *By Jupiter*[9] or *This Is Macy's.*[10]

The principle that the industrial worker should understand the product upon which he works has not been a functioning one in any large degree. Too few industrial leaders have seen the necessity to develop the intelligence of the employee in respect to the product being manufactured. It is

7 Aluminum Company of America.
8 Owens-Illinois Glass Company.
9 Marshall Field and Company.
10 Macy's.

not necessary to point out the evil by-products of this lack of intelligence. It should be sufficient to indicate that the adult American industrial worker is also the product of an educational program designed to make a thinking, curious, intelligent citizen, who is interested in his own personal improvement. He wants to *know,* and this desire to learn has made him the alert, productive worker that he is today. Certainly it is ultimately a short-sighted policy that does not promote this quality. The film provides the kind of instruction material that can combine knowledge and skills in such an economical manner and with such effectiveness that industry as a whole cannot long neglect its use.

A great range of specific objectives for this type of film is offered the training director in the present supply of films, and the almost daily new releases point to a steady increase in this direction. A more detailed breakdown of these objectives under the general heading of "Product" is as follows: Research, Design, Planning, Materials, Development, Manufacturing, Forming, Fabrication, Operation, Testing, Inspection, Assembly, Dis-assembly, Installation, Maintenance, Adjustment, Repair and Replacement, Storage and Care, Identification of Part and Functions, Handling and Transporting, General Use or Application, etc. Again, it is evident that films designed to meet the above objectives have much over-lapping in use in specific program planning. Their value in making the worker feel a part of the organization, in giving him an intelligent view of himself as an important unit in the productive process, in providing him with thinking materials about his job, as well as many details of the skills which he must possess—all lead to a better trained worker and a better adult citizen. Industry profits both directly and indirectly by this type of training.

The principle that the employee needs training for his specific job is readily recognized as one which lies at the foundation of success of the industry itself. Herein lies econ-

omy of performance in machine handling, materials, forming, fabrication and other techniques or procedures involving a large share of the total cost of the product and ultimate profit to the manufacturer or distributor. Advancement of the worker from the unskilled to the skilled classification in general means a greater efficiency in the total productive process. It is likewise essential that replacements be ready at all levels. Thus, a constant upgrading and development training program is necessary if the productive process is to be maintained at its most efficient operation. It is further necessary to maintain an apprentice training program in many industries to insure the ready supply of trained replacements. Whether it be the specific training for a given job, upgrading on-the-job, development of skilled mechanics, development of production specialists or supervisors—the film stands as a concentrated, purposeful, simple, direct and economical medium of instruction.

A breakdown of objectives for films of this group which lead to personal improvement of the worker's performances are as follows: job analysis, technical information, machine operation and function, operator performance, related information, morale, health and safety practices, adaptations for handicapped persons, etc. It is clear that many objectives of the preceding classification function for specific employee training. Such a coordinated training program involving many of the above objectives in the use of films is to be noted in one of the older trainee schools in industry as maintained by Ford Instrument, Inc.[11]

The industrial worker has given evidence of his interest in the use of the film as a means of instruction suitable to his own best interests. Labor organizations with educational programs are beginning to make provision for the production of films.[12] Although these early excursions into this field by labor

[11] *Studies In Personnel Policy*, No. 49, National Industrial Conference Board, pp. 52-53.

[12] Hugh Reichard. "Labor Looks At Visual Education." *Proceedings* of Fourth Annual Visual Education Institute, University of Wisconsin.

itself may appear to have objectives related closely to the "attitude" phase, yet it is significant that the power of this medium is being recognized. Wherever well established programs are in effect in industry, the use of the film receives commendation almost universally from the adult learner.

The frontier for training programs is being pushed back further by a few daring industries who look upon the industrial worker as the beginning point in their human relations policy. This frontier again takes us to the viewpoint of adult education and shows that the worker is a man who wants to keep on learning and improving himself. It likewise shows that the industry which helps the worker to fulfill this desire is the one that profits in a very real sense as well as the worker. This training program[13] is one that not only provides for training on-the-job, upgrading, apprentice, specialists, supervisors, all dealing with the particular job, but provides for general educational opportunities, intellectual advancement, new skills outside the job, and recreational interests. The whole man is recognized as an integral unit of the industry, and thus his whole life is influenced by various types of training opportunities. The film plays an unusual part in providing means for bringing to the worker material from all phases of life in a form which he can understand. The very wide range of cultural, informational, technical, and recreational titles found in the standard film catalogs is a challenge to any modern training director who has the "whole man" at heart. Enrichment of the program by the inclusion of films which not only bring him new knowledge but which take him into new areas of thought, people, customs, lands, traditions, etc., constitutes a new phase in the training of the industrial worker of tomorrow.

This discussion has emphasized the importance of a proper viewpoint toward the industrial worker as a learner.

[13] "General Educational Program," *Bulletin* 1947-48, IBM School, International Business Machines, Endicott, N. Y.

Basic principles of adult education should prevail at all times. The film must be recognized for its experience factor as well as its informational factor. The mental set with the resulting tendency to *perform* is definitely an outcome of the use of the motion picture. The four basic steps in learning and teaching (preparation, presentation, performance, and follow-up) so fundamental to training industrial workers, provide opportunities for use of the film in a positive, direct, simple, and economical manner. The three general objectives of all education may be met by the use of the film—attitudes, knowledge and skills. The specific objectives for training the industrial worker are attained by the film, properly presented in a planned lesson situation.

The great volume of training films released following the war should provide greater stimulus to the use of the film in the future. The frontier of the training programs for industrial workers is gradually being pushed beyond the traditional training for on-the-job, upgrading, special mechanics, supervisors, product understanding, manufacturing techniques, to include the whole man as an integral unit and thus insure his social, cultural, and recreational advancement to the full limits of his personality.

CHAPTER XX

THE FILM IN TRAINING SALES PERSONNEL*

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Military Emphasis on Training Films

The wartime molding of twelve million men into a fighting team was a task of great magnitude. Army and Navy film training programs were enormous and tremendously successful. They were successful because the leaders in this phase of training dared to throw over-board many preconceived notions about education; they were "not even afraid of a new idea."

One of the most significant contribution of the military training programs was their unique emphasis upon audio-visual training aids. A few alert people had experimented with films since 1905, but so far as sales training was concerned personnel trainers in general were apathetic to anything that departed very far from the pep meeting or straight lecture method. However, let us first determine the scope of our subject, before we continue to dicuss the film in training of sales personnel.

Types of Jobs Included in Sales Training

The following types of jobs are arranged according to the nature of the service rendered. This summary is not inclusive of all sales jobs, but it will furnish a broad, descriptive outline:[1]

* The content of this article must not be construed as official statements of Montgomery Ward & Co. Statements made are only those of the writer.

[1] *Distributive Education—Organization and Administration,* Bulletin No. 211, U. S. Office of Education.

1. Managers and operators of all kinds of retail stores, wholesale establishments, jobbing and commission houses, cooperative organizations, commercial service, personal service, artisan shops, contractors dealing with customers, industrial factories selling to consumers, hotel, restaurant, recreation and amusement business.
2. Managing agents.
3. Apprentices and learners in stores.
5. Purchasing agents and general buyers of all kinds.
6. Sales managers in all kinds of business.
7. Salespersons: salesagents, canvassers, solicitors, demonstrators in all kinds of distributive businesses.
8. Store service washers in contact with customers.
9. Deliverymen of all kinds.
10. Miscellaneous: auctioneers, news vendors, waiters, stewards, and organization housekeepers.

Why Use Motion Pictures

Why use motion pictures? A few years ago the stock answers to this question were: "to keep the men awake, to sugar coat the pill, to dramatize our product, to create interest" and so on in terms of generalities. Today we need not employ generalities in relation to films, for we can be specific. This comparatively new medium has proved itself remarkably effective in the average training situation.

The fundamental reason for the use of motion pictures is that they offer a wonderful method for communicating ideas. Guess-work is eliminated in transmitting managements' ideas, skills and know-how to the cutting edge—the workers. Salespeople may ignore speakers, and printed material may be thrown into the waste basket, but very few people can sit in a darkened room and ignore the message sent to them by way of the moving picture.

These points serve to emphasize the importance of giving

more attention in sales training to the motion picture as another excellent training aid. The effectiveness of the film reflects in no way on the merits of other devices whose value for certain kinds of subject matter is undisputed. Its relative effectiveness for training in many situations, particularly in multiple unit organizations, has been established.

There are definite learning and instructional advantages accruing from the use of motion pictures for training purposes. Some of the advantages are startling because they were known only recently:

1. A 35 percent increase, in learning is said to take place when training films are used. Employees *learn more.*
2. A 35 percent increase in retention of facts learned is said to take place when training films are used. Employees *remember longer.*
3. Training films undoubtedly command employee *attention* and *increase interest.*
4. Training films give employees confidence in their ability to work successfully—thus *build morale.*
5. Training films make it possible to meet working and training standards in less time—thus *save time.*
6. In any big or small organization everyone must "see alike" and "do alike" in the maintenance of standards. Only training films can convey these qualities with accuracy—thus *making training uniform.*

The foregoing claims for the efficiency of films may appear to be over-drawn; actually, they are conservative. For example:

Several objective measurements have been made of *retention* of information after motion pictures were used. B. A. Augenbaugh found that the ratio of retention has been as much as 9 to 1 for the picture group over the word group when description, narration, exposition, or argumentation are presented as the subject matter. One test employed textbook study versus pictures of the same subject. It was found that it usually re-

quired about 10 days to "cover" the work using the text book. It was found that the same subject could be "covered" by pictures in 15 minutes and that the trainee learned more and retained it longer. Many other tests have verified the validity and reliability of these statements.

Kinds of Motion Picture Media

Those who train sales personnel use three kinds of motion pictures as aids in training their salespeople. These are: (1) the silent film, (2) the sound film, and (3) the motion slide-film.

As far as serious students of sales training are concerned, the question of the sound motion picture's effectiveness for training has not been adequately proven by actual researches and careful measurements of teaching and learning effectiveness. There is a place, nevertheless, for the sound film. It has its virtues. As someone once said, "A sound film never omits, never exaggerates, is not over-awed by an important audience, never suffers stage fright, and never has a hangover." In other words, the subject matter is told in the same way, with the same inflection, emphasis, and directness no matter how many times the film is shown . . . an important point when we consider the time and effort we oftentimes spend in trying to make the written or spoken word say exactly what we have in mind.

There are valid and reliable data which tend to prove that the silent motion picture may be a more effective training aid in the picture area so far as certain areas of sales training are concerned. Words and sounds often detract from the basic message that the user wants to convey to his trainees. Salespeople often pay more attention to the words than to the picturization. That is undesirable, for the demonstration—the show—the example—should be much more important than the words. It is believed that the silent motion picture is more

effective for teaching *facts, skills,* and *how-to-do-it* information than other types of pictorial presentations.

The *motion slidefilm* is a combination of the motion picture and the slidefilm. It consists of still pictures, photographed with a motion picture camera, combined with regular motion pictures. These are shown with the usual 16mm motion picture projector. They have enough motion to give the illusion of a movie; they cost far less than motion pictures, twice as much as slidefilms and rank about midway between motion pictures and slidefilms in effectiveness. For certain purposes the motion slidefilm has given excellent results. The film user should give it careful consideration when making a decision as to choice of film medium.

Determining the Job to be Done

A training film is born in a sales or industrial concern when a definite need arises. To meet this need, executives naturally consider all available mediums, including the movies. There are many factors in making a good decision, and without a consideration of all of them the prospective user, or producer, is shooting in the dark. The factors needing consideration include: nature of the message, time element, possible distribution, organization of user, type of audience, money available, degree of dramatization needed. Can it be pictured effectively in a movie? Does it involve intangible subtleties? Does it involve (1) emotional appeals (2) presentation of facts (3) teaching of skills?

After these factors have been explored by responsible executives the appropriate answer will evolve and develop. However, it should be stated that the major reason for failures usually lies in cutting corners to produce a film as cheaply as possible. A motion picture budget should be set up on the basis of what the accomplishment of the mission is worth to the company. If the film is not worth an adequate investment,

it is always better to use some other less costly, if less effective medium.

Two General Film Types

Films for sales training come in two general types: those for general distribution, often named *ready-made* or *syndicated,* and those produced primarily for the exclusive use of the client, usually named *tailor-made.*

Examples of *ready-made* are those produced by the U. S. Office of Education, the National Safety Council, and the training films produced by Dartnell Corporation. The ready-made films are the answer to the small organization's prayer. When carefully selected for the job that is to be done, they are as effective as tailor-made films, sometimes more so. These films are based upon years of practical experience, both in production and in use. Most of these films are excellent for their purpose. Where a high degree of standardization is not necessary, as it is in a chain organization, or in a very big department store, the ready-made film may be superior. Ready-mades may be purchased for a few dollars. Their life expectancy is for years. Their low cost and generally high effectiveness make them an economical investment when their use is possible.

The obvious weakness of the ready-made film is that the needs of two clients may not be exactly alike. The subject matter can develop into generalities when a producer makes a film for a large number of users. But if the buyer will discriminate and select his film wisely, he will meet few difficulties. To avoid the inclination toward generalities in ready-made films, the prospective purchaser must carefully examine them in the light of his needs. First, the experience, intelligence, backgrounds and pay-roll jobs of the prospective audience must be considered. Here the all-purpose film will most likely fail. Films must be treated and aimed in rifle fashion; shotgun treatment and spotting of any subject will fall short

of most of the audience. For example, a film designed for outside salesmen will be of little use to retail salespeople. A film for shop workers will be of little good with a high school audience. A film for dealers should not be released to the public, for it might do more harm than good.

The great majority of sales training films are produced for the specific use of a specific client. In most cases these film productions are turned out by reputable companies who have staffs of competent, experienced, salesminded writers, directors and photographers—all of whom have had experience in producing films for business concerns. These skills demand unique people, for many technicians, thoroughly skilled in other areas of film production, fail miserably when confronted with the demands of a sales training film. All types of training films are being used successfully for all types of selling and merchandising activity. Many distributing concerns start their visual training at the hiring stage and carry the newcomer through induction, elementary duties on the job, company selling policies and range, product information and even into such positions as department head and district sales manager.

Films for sales training are now universal, and not only big distributors, but also those with only a few salespeople have discovered that it pays to train with films.

The trend at this time is, very definitely, toward film presentations that include a series of short films, each dealing with a specific phase of sales training, rather than one or two films that try to "tell all and get it over with."

Guiding Principles for Film Training

Having selected the type of motion picture that is most suitable for a given job, the next step is to prepare a good training plan for using the film, a method for putting the deal across. Otherwise the film is useless, for it has no inherent magic with which to change behavior patterns.

A workable training plan must operate within the bound-

aries of certain principles that meet with the wide approval of key people in the organization. Considerable research has revealed that the following training principles approximate those that have been established for many industrial and distributive concerns:

1. *It Must Be Simple*—Any training plan must be fundamentally simple; simple in administration, simple in construction, and simple to present.
2. *It Must Be Practical*—Elimination of an "academic" approach to the content, and a well planned method of presentation are necessary if the thousands of manhours that will be used in training are to be most productive.
3. *It Must Be Educational*—The sole reason for a training program is to help managers to train their personnel to perform more efficiently. Therefore, any training program must be educationally effective.
4. *It Must Be Interesting*—Retention of subject matter will be greater when the program is interesting. (Not entertaining.) It must also be productive from the employee viewpoint, for each employee says to himself: "What's in it for me?"
5. *It Must Fit The Business Operation*—Training must be planned so that it can be conducted with a minimum of disturbance to regular store, office or factory routine.
6. *It Must Have Management Support*—Training without management interest and support lacks a most vital ingredient. All effective training programs have such support. In many organizations management is not only interested in giving support to training—it has actually initiated the training.
7. *It Must Be Effective*—No training program, regardless of its simplicity, practicality, or interesting qualities, is worth anything unless it gets results.

8. *It Must Be Personalized*—No film, no other visual aid, will ever supplant the warmth and liveliness of a good instructor. Mark Hopkins at one end of a log and an eager learner at the other remains the ideal training situation. Nevertheless, the film must be personalized as much as possible so that it will approach a human training situation.

Subject Matter for Sales Training

Most of the large corporations in the United States employ motion pictures as one of their transmission lines for the conveyance of sales skills and knowledge from management to salespeople. Included among these companies are Western Electric, Pure Oil, Chevrolet, Frigidaire, Cities Service, Upjohn, Proctor and Gamble, Marshall Field, Macy's, Kroger, Firestone, International Harvester, Coca-Cola, Swift, and Montgomery Ward.

These organizations have found that films are particularly effective not only as *starters,* or orientation devices, but as a medium for teaching selling techniques. When salespeople view a motion picture of a properly made sale, for example, they receive a clear and usable mental image of effective sales technique. The demonstration of an ideal selling situation is effective training in any area of salesmanship, much more so than mere verbal instruction. When dealing with intangibles, such as the spirit of courtesy and service, the motion picture has very great motivation power. When a motion picture is employed to show employees how to ring a sale or how to handle a sales check, the facts and skills involved are likewise capable of effective presentation through motion pictures. A basic employee film for use in most sales organizations, would teach several important things about the speech, appearance, and attitudes of salespeople. Closely related to this film could be another which would demonstrate to all personnel certain basic facts about human relations. It should employ a natural,

homelike approach, and the message should be cast on a level that is appreciated by salespeople. There are many other potentially useful films by which all sales employees, including the top-drawer group, should be continuously taught how to improve their performance. These lessons should be given in a dramatic, interesting, hard hitting, profitwise manner.

Employee Indoctrination

A majority of distributive organizations employ some form of indoctrination for their sales personnel. Motion pictures are a very useful device for this purpose. Some of the nation's most alert sales organizations are using motion pictures to economically, quickly, and effectively indoctrinate salespeople with the ideals of the company. Indoctrination films usually combine historical facts with high emotional content. The objective is to change or strengthen employee attitude toward the organization in which they work and to show them their place in the organization. Indoctrination films help salespeople to understand that they are part of a team; that the team is important to the success of the organization; that they are individually important to company success; that the company officers appreciate them as earnest workers.

While the indoctrination film may present a factual message, its effect on the emotions is more important than the facts presented. The chief aim is always to make both new and old employees feel that they are an important part of the organization, to impress them with the importance of the company, when and by whom the company was founded, what it does and so on.

Department stores, in particular, have used films to bring these important facts to their employees. New policies, new benefits, new practices have been placed on films that are shown to employees on Company time, at lunch hour and at rest periods. Stores have found that they must turn to a medium

with dramatic power to tell their stories effectively. The moving picture does the job well.[2]

Public Relations Films

Very often the indoctrination films are of such a quality that they may be used for public relations purposes. Films that can be shown in local theatres, to men's and women's clubs, churches, schools and other civic groups are influential public relation devices. These films are created to make people aware of the importance of the business to the communities. When such films are unselfish, relatively unbiased, and free of advertising, it is usually easy to arrange for screening throughout a store's marketing area. Among many others, the Boston Store, in Milwaukee, and Montgomery Ward have produced such films.

Supervisory Training

Many films employ attitude motivation as the major theme in supervisory training. Factual knowledge is important for salespeople, but good attitude is of even greater importance. Supervisors are the people who transmit management's skills, know-how, and information to the salespeople. But supervisors are also responsible for reflecting management's attitudes. In other words, there are two jobs to do in training supervisors: (1) give them factual knowledge so that they can train employees skillfully; (2) change or strengthen their attitudes so that they are able and willing to do those things that management desires. The motion picture is a powerful aid in attaining these objectives.

Not many supervisors or personnel trainers need a sales talk on the *need* of training their employees. There are many, however, who will argue that they do not have the time to do a training job. All people on a sales supervisory level must be convinced both of the need for training and why a properly

[2] For example, Marshall Field, Chicago, produced a film in 1946 entitled *By Jupiter* for this purpose.

constructed training plan actually saves time. A good motion picture can help to do this job effectively.

One hard-hitting point in a supervisory film should be a dramatization showing the countless incidents that absorb a supervisor's already rationed time. For example, the films could show some of the things a supervisor does to cover up employee mistakes and the waste involved in attempting "on the spot" training for a single employee when group training is needed. This film could also emphasize the fact that many supervisors, trainers, managers, and executives go on day after day throwing their time away on individual incidents. It could also show that these usually are the same people who resist training meetings because they "take time."

Films for the training of supervisors, managers, personnel trainers, and others are needed to help them in the training of *individuals* and *groups* of employees. These films should demonstrate and explain correct instructional techniques for each situation. They should be reviewed several times, until the points stressed are thoroughly understood by every one who instructs in any capacity in the organization. These films should also furnish schedules for training people, and the schedule should thereafter be rigidly followed by all who supervise and train.

General Management

Manufacturer's training films for customer use are meeting with some success. For example, they have been successfully used to demonstrate safety rules, suggestion systems, cashiering, invoice, record keeping and so on. Many concerns, such as typewriter, textbook and office supply houses, have prepared and distributed films that are aimed to help their customers solve their sales training problems.

Working the Film Production Plan

1. The first requirement in working a film production training plan is to get top management behind it. Unless and

until top management is sold on the plan, it will be largely ineffective. Selling top management on the value of training and then keeping it abreast of all new departures, developments, and productions is a *must.*

2. Second, at an early date decide whether the film is to be accompanied by sound; whether it is to employ color or is to be black and white; what subject matter should be presented; how long it should run. Other items will reveal themselves as thinking about the film progresses.

3. The third step in working a film production plan is to select the producer. It should not be necessary to state that a producer should be *reliable.* He should be able to do what he says he can do. Before committing himself to a production contract, the sponsor or client should see what several producers have done. Go to their studios and view several of the productions, both old and new. This will reveal the producer's ability to do the job that the sponsor has in mind.

4. The script writer is a very important cog in the film producer's machinery. Ask to see several scripts that have been prepared for others, and judge the producer largely on that basis. Be sure that the producer has writers available who have the ability to write film scripts from the emotional, logical, and teaching aspects. Be very sure that the writer you select has had occupational experience of some kind in the field that you want portrayed, for without such experience his writing will lack emotional appeal, imagination, and honesty.

5. Check on the producer's technical staff. Are the photographers professionally competent; technically adequate; able to get cooperation from models or theatrical people? Is the production director imaginative, inventive, inspiring, careful, resourceful, analytic? Few directors have all of these qualities, but the personnel trainer must seek one out and avoid those who lack such qualities. Will the producer deliver on time? Will he deliver in the proper size containers? Who will pay

the express charges? Where will delivery be made? At your door or his? The sponsor—he who pays—needs answers to all of these questions, and more, before he awards a contract to a film producer.

6. Before working out a plan, consider the distribution to departments, branches, agencies, or stores. Are the people in charge of these divisions enthusiastic about *your* training plan? Have you made sure that they are for your plan? If they are not, don't initiate the program. Train and re-train them until they are enthusiastic about it and are ready to promote it for you.

7. Have these various responsible individuals been trained to train others—to use films and other instructional devices? Remember, they must have know-how, or the whole training program will fail before it really gets started.

8. Have the persons responsible for showing films been supplied a meeting guide that is synchronized with the film, so they will get results regardless of their ability as instructors?

9. In addition to meeting guides, have all of the above people been provided with supplementary materials such as training manuals, charts, take-home booklets, flash cards, quizzes, and other devices to round out the program and punch home the subjects portrayed in the film?

Whether the film is ready-made or tailor-made, trainees judge film quality by what they see in theaters, in other words by Hollywood standards. Although a sales training picture is obviously designed to accomplish a definite training result, and though it is shown in a salesroom, a hotel parlor, an office, a home, or a school, it remains a *movie* and is most often judged as such. To be completely acceptable it must have all of the elements of a good Hollywood movie, but it must not only entertain; it must also ***train.***

If the sales training film has been properly planned and properly made, and if it is used by a training staff that has an intelligent and pre-planned sales training program, there can be no doubt that the film will contribute immeasurably to the program.

CHAPTER XXI

THE FILM IN MEDICAL AND NURSING EDUCATION

JOSEPH P. HACKEL
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Slowly but surely, instructors at medical schools and members of the medical profession in general are realizing that the film offers an excellent medium for presenting and solving some of their important problems. The demand for interne education is great, and that for nursing education even greater. The film is making its contribution to the overall effectiveness of a stepped-up program of education in these fields.

A conversation which the writer held some years ago with an assistant commissioner of hospitals in New York City posed the problem of interne education very effectively. A discussion arose as to what information should be incorporated into a teaching film for interne education. The writer was told that a student is not taught the fundamentals of scrubbing up for an operation while he is in medical school, but that he subsequently receives such instruction from a trained surgical nurse in the first days of his internship at his first hospital connection. Another experience brought to mind about the lack of education among medical students occurred subsequent to the completion of a film on sinus disease prepared for a teacher who regularly taught this subject at one of New York City's leading medical schools. Noting that a new group saw this film every few weeks, the writer asked how many hours were devoted by each student to the study of sinus disease in

this medical school. The answer was six hours. The shocking reflection was that it took the writer six months of diligent study to learn the essentials of the subject and make an effective teaching film on it, whereas students were expected to master the information in six hours. This emphasizes the value of visual education as an adjunct to the teaching curriculum in our medical and nursing schools.

Education of nurses has been a sorely neglected visual field. Literally hundreds of requests a year are received from directors of nurses training for visual education materials. During the war, the U. S. Office of Education recognized the need for immediate training as well as post war training of nurses, and developed a series of teaching films. While in the main these films were competently supervised, they suffered from the fact that the producers were not skilled in medicine and because the government supervisors were not cognizant of photographic problems as related to medicine. As a humorous sidelight to this adventure by the U. S. Government in producing medical teaching films, the writer was assigned a series of productions on machine tools in spite of his medical experience, and another organization skilled in industrial and other promotional films was assigned to the nurse's training series. Fortunately for the government in this case, the writer, having eleven years of training as a machine tool designer, accepted the machine tool training film program, although his heart was in his chosen field of medical photography.

All in all, the U. S. Office of Education is entitled to a sincere vote of thanks from the medical profession for pioneering in this sorely needed series of films on Nursing Education. That office was the first agency to recognize the crying need for nursing education as a postwar problem. Following are a few of the titles which were produced during this critical war period and which may be purchased at a nominal cost to be used for postwar education: *Care of the New-Born Baby, Bathing the Patient* (*Home Care*), *Feeding the Patient, Hydro-*

therapy, Radiotherapy, Therapeutic Uses of Heat and Cold, Fundamentals of Massage, Recreational & Occupational Therapy, Care of the Cardiac Patient, Teaching Crutch Walking, Care of the Patient With Diabetes Mellitus.

The British, during the war period, also produced a series of worthwhile films with basic subject matter of interest to the nursing profession. Subjects covered were tuberculosis, combat fatigue and psychiatric rehabilitation. These films are available for postwar exhibition. Lists of films on hospital sterilization techniques may be obtained from the American College of Surgeons, and the newly formed section on medical motion pictures of the American Medical Association. Their film reviews published weekly in the *Journal of the American Medical Association,* should be studied for new film subjects, some of which may be on nursing problems. The writer's series of films are available to joint meetings of nurses and the medical profession. Subjects available are: *Otitis Media in Pediatrics, Pharmacology of Respiratory Stimulants, Trichomonal & Monilial Vaginitis, Non Operative Treatment of Paranasal Sinusitis, Hypothyroidism-Diagnosis-Etiology-Treatment, Cervicitis-Etiology & Treatment, Treatment of the Major Neuralgias, Occupational Health Problems, Management of the Failing Heart, Arterial Blood Pressure, etc.*

Function of Medical Films During the War

Early in the war period fundamental policy of the Surgeon General's Office, both Army and Navy, was changed Originally it had been planned that when a doctor entered the reserve, he would in war be placed in his own specialty as near to his home as was practical. However, due to large scale maneuvers and shortage of doctors, many men were torn from their specialties and assigned to new and unfamiliar medical duties. The need for training in these new categories was urgent. However, due to the pressing problem of educating the soldier, the doctor was ignored, with stress laid on prepar-

ing educational films for the man in the ranks. Films on such subjects as malaria control, venereal disease, etc., were produced early in the war. Later on, the Navy did a phenomenal job in reporting medical problems, using the newsreel type of film presentation; a sort of production in the tempo of the times. All in all, these films were professionally produced with competent photography and excellent sound track. The only major criticism was that each film was a review of the subject, rather than an extensive piece thoroughly worked up from the teaching point of view.

The Surgeon General's Office in the Army also neglected starting a film program until late in the war. Even then, stress was more on the psychiatric problems between soldier, doctor and nurse, with very little on education of the doctor. Where contracts were let out to producers, a thorough job was done, as also was the case when the Signal Corp handled the assignment. This was not always true of strictly medical films, handled directly by the Surgeon General's Office, where the work was casually done. Certain surgical assignments were produced in a thorough fashion with sometimes a patient's follow-up photographed by an amateur, spoiling the work of his predecessors.

Both Army and Navy were able to demonstrate their years of efforts when the New York Academy of Medicine arranged a film exhibition at their Graduate Fortnight on the medical accomplishments of the war services. The total number of films which both branches of the service sent was about eighty subjects. Any attempt to review the medical film accomplishments of both services would be unfair to the men responsible, because they labored under the most trying circumstances, of which combat conditions was probably the least trying, with top personnel unfamiliar with the purposes of a film program being the greater problem. Anyone interested in specific subjects made by the services can contact the U. S.

Office of Education, which is charged with the postwar disposition of these films.

After discussion with the war plans and training division of the Surgeon General's Office, following an initial recommendation from the American Medical Association, the author early in the war expanded his film distribution to aid any medical service desiring visual education aids. Each year during the war period nearly five hundred showings before the medical services of the Army, Navy, Marine and Air Corps were made, including foreign as well as domestic exhibitions. The author had the satisfaction to hear a chief of service from a local medical school relate how a former student of his, sitting in a motion picture theatre in Oran, suddenly saw his ex-chief's name flash on the screen and discuss his specialty, *Broncho Pulmonary Lesions.* Other films distributed were such subjects as: *Anatomy of the Ear, Inguinal Hernioplasty, Cervicitis-Etiology & Treatment, A Clinic on Sigmoid Sinus Thrombosis, Rehabilitation for Parkinson's Syndrome, Non Operative Treatment of Paranasal Sinusitus, Treatment of the Major Neuralgias, A Clinic on Acute Mastoiditis.*

Postwar Effect of the Armed Forces' Medical Film Program

The war has fostered international exchange of ideas in medical training to a considerable degree. Our medical staffs were stationed in practically every nation of the world. As a direct result of film showings by visiting American doctors, requests for films in the language of their country are received constantly. Where language translations are not available, English is the second choice. When Latin American physicians went to foreign medical schools, France was the country of first choice with Germany or the United States a second choice. Due to the war, Latin American medical men are now turning toward this country for their supplementary education. The State Department of the U. S. Government, recognizing this trend, is fostering international goodwill by an interchange of ideas. The State Department has set up a cultural relations

branch as a permanent addition to its activities, capitalizing on one phase of endeavor of the war effort which gave birth to the Coordinator of Inter American Affairs. Both these organizations fostered mutual understanding between the Latin American and U. S. medical professions by an educational film program.

What most people lose sight of in this endeavor is that the doctor in both Central and South America is oftimes not only the center of social life but is an important figure in political life as well. When something is done for the welfare of the doctor and he is impressed by it, that goodwill is transferred by him to many other walks of life affecting business relations as well as education. From the many requests from Latin American doctors who attend our medical conventions, it is a self-evident fact that there is a tremendous interest in our medical teaching films. The world's impression of the American business man stems from the days when the sharp and shrewd Yankee trader visited their foreign shores. Our interference with their political and social economy a generation or two ago did not help us very much. In our about-face, the American public has an opportunity to sincerely cement good relations. A sponsored program of cultural, scientific, and medical films would be a prime-mover in such a venture.

The author has been successful in starting such a movement in which several of his sponsors' films will be sent out on a regular program basis, moving from one Latin American country to another by previously arranged showing dates. Medical schools, medical societies, and hospital groups in the many Central and South American countries have indicated their pleasure in such a movement, and have extended many invitations.

The plan to be followed in these countries is for organizations who are interested in the welfare of the Latin American medical profession to sponsor or subsidize the nominal costs

of such a program. Dividends in goodwill may repay such an expenditure many times over. This plan is designed along the lines proven successful in this country by the author, wherein any pre-medical or interne group, hospital staff conference, local, state or national medical society can obtain medical films provided a sufficiently large audience will be present. Inasmuch as most hospital staff groups in the average community is of a nominal size, any assemblage of twenty doctors or over may take advantage of this offer. Organizations interested in the goodwill of the medical profession in this country have sponsored both the Latin American and United States programs.

Value of Medical Films at Medical Conventions

The Academy of Ophthalmology and Otolaryngology, the American Medical Association, the Minnesota State Medical Society, the Michigan State Medical Society, the Texas and New York state medical societies, as well as several others too lengthy to list, have used motion pictures as intergral parts of lécture programs at their respective conventions, and have found films to be one of the most popular methods of transmitting information to large gathering of doctors.

Of noteworthy interest is the plan followed by the Academy of Opthalmology and Otolaryngology at their yearly convention. This organization has an ideally organized teaching schedule from which many of our other national and state medical conventions could learn a few interesting object lessons. Nearly two-thirds of their registered membership attend this meeting. Each morning, outstanding lecturers selected by invitation, present postgraduate courses to a group of men desiring specialized training. The classes are limited in size in order to give each man an opportunity to participate in discussions with the lecturer. Several score of such lecturers are listed each day, with no doctor permitted to take more than six courses. Each afternoon a motion picture session is held

where nearly one thousand specialists attend. At the conclusion of each individual film showing, a lively discussion follows. On alternate days a full afternoon is devoted to either otolaryngological or ophthalmological films, permitting the other sectional specialty groups to visit the commercial exhibits. The films shown are generally noteworthy contributions to teaching and have won the acclaim of the members present. The programs have grown in length and quality because acceptance of any film by the program committee is a distinct compliment to the doctor who presents such a subject.

Production Problems

In its infancy the field of medical motion pictures was to a degree facilitated by the doctor's interest in photography as a personal hobby, and contrariwise retarded by his lack of equipment and limited knowledge of proper motion picture film technique. The doctor's primary interest in photography was due to his seeking for a means of artistic expression. This desire, through the years, gradually broadened into a search for scientific expression as well. Because the doctor's artistic concepts could be more easily presented by still pictures rather than by motion pictures, the latter field suffered a retarded development. Even in these days of tremendous photographic development, stimulated by war activities, the preponderance of equipment available for the still photographer with a scientific inclination exceeds by far the cameras and auxiliary attachments which are essential for medical motion picture work.

This lack of proper equipment for medical cinematography retarded the production of medical films, in spite of the fact that the medical profession as a group was and is most vitally interested in the photographic arts. If the problem were only a mechanical one of supplying properly designed moderate-priced cameras, capable of producing medical motion pictures of quality, the ingenuity of designers of

photographic equipment would have solved the situation long ago. Many experiments were conducted modifying standard 35-millimeter as well as 16-millimeter cameras to enable photographers to produce medical motion pictures. The author's contribution to this field of medical cinematography stems back to 1930 when he introduced the first practical 16-millimeter camera for this highly specialized field. Magazine-loading of film, in one compact unit, overcame the necessity of intermittent threading of film every four minutes. By substituting a motor-driven film camera using preloaded magazines of fifty feet of film, a new magazine could be inserted in a split-second. The problem of parallax was overcome by designing a cam-operated viewfinder which compensated for parallax. At the same time, by rotation of the viewfinder eyepiece, it gave the observer the proper magnification of the field, which corresponded to that of the taking lens, whether a wide angle or telephoto lens was used. Animations were easily made, because the camera was provided with a starting lever which, thrown in one direction, took single-exposures, and when thrown in the opposite direction took continuous motion pictures. Accurate focusing directly on the film plane was easily accomplished by the substitution of a magazine sighting device for the film magazine which not only showed the exact placement of the image, but had a built-in magnifier to facilitate accurate focusing. Bayonet locks on the lenses permitted quick interchange of various focal lengths of lenses from wide angle to telephoto.

Several years afterwards, the Eastman Kodak Company announced its Eastman Cine Special, which is today the instrument most used by medical and scientific cinematographers. The Bolex, incorporating several of the above features is also adaptable for this work. In either case, a motor drive is recommended where continuous operation of film is called for during photography of surgical sequences. A hand-wound spring motor drive can be used during surgery only when the operator

takes advantage and winds immediately during lapses of time between scenes.

Besides understanding the mechanics of his equipment, the medical cinematographer must be conversant with the ultimate use or purpose for which his film production is intended. One of the greatest obstacles to the acceptance of medical motion pictures as a teaching medium were those produced by amateur photographers who were unfamiliar with the primary principles of visual education.

The amateur who desired to portray the intracacies of a simple appendectomy would generally use a standard one-inch lens. For the medical photographer this covers a large field showing the doctor elbow to elbow, whereas the ideal area would be that showing only the surgeon's finger tips. The net result would be that such a poorly taken scene would show the appendix registered to only one-twentieth of its possible magnification. Had a three or four-inch telephoto lens been used instead, the appendix would have been shown in detail, filling the entire frame. The magnification of the image very often determines whether your film teaches by showing just enough anatomical detail, or whether is confuses your medical audience by showing too much.

Many other factors enter into making an understandable or competent production. These are generally of an elementary rather than a complex nature. This author, during his connection as photographic editor of the *Medical Record,* one of the many medical publications, was always astonished when he received praise for his so-called erudite exposition of his principles of medical cinematography, which were generally simple facts, simply told. These remarks were generally intended to simplify rather than complicate the making of a motion picture film.

One of the most important requisites in any photographic venture is patience on the part of the photographer, requiring him to subdue the urge to press the camera starting button

before he is satisfied that the image is what he desires. Because the photographer oftimes cannot control the surgeon's actions, the desired scenes may be obscured by a shoulder, head or hand of the surgeon, or by his assistants obstructing the field. This may be overcome to a great extent by careful planning of scene content and by coordination of action between doctor and photographer. Best results are obtained where the cinematographer is sufficiently trained and conversant with medical practice to guide the surgeon in his endeavor to portray his technique. A sharp command to the surgeon to clear the field of obstructing heads or hands or instruments, has saved many important and crucial scenes. Apologies for curt commands can be made after the shooting is over to mollify anyone's ruffled feelings. Particularly when the troublesome scenes are projected on the screen, will the surgical team realize the necessity for quick action to save the film for the photographer.

The planning of a medical film involves many more problems than just jotting down the scenes desired by the doctor. The best procedure would naturally be to have the medical man prepare a thoroughly worked out shooting script under the guidance of the producer or director and his photographic staff. Except under ideal conditions, where large production budgets are available, this procedure is impractical. Where simpler methods must prevail, it is essential that the photographer be presented with at least as thorough an outline as time will permit.

It is the author's experience that very few medical men are familiar with the demands which the production of a properly executed film makes upon them. They are unfamiliar even with the basic requirements of preparing a film scenario. This statement may sound odd because of the profundity and extensiveness with which the profession so often presents its research or general medical observations. It is exactly this aptitude for prolific writings that causes many members of the medical profession considerable headaches, when they

desire to translate their voluminous articles into film. Presenting such lengthy reports would tire the most understanding audience. The doctor must realize that oftimes he must condense a chapter into a paragraph and a paragraph into a sentence, particularly if he is preparing a sound film.

The author's most trying experience in his seventeen years experience occurred many years ago, before duplicate prints in 16-millimeter color were available. A surgeon requested that a color film be made in sound. To accomplish this purpose, the author (his engineering experience coming in handy) designed a projector which simultaneously could project the original picture and keep the sound track in synchronization. A side view of this projector showed four huge sixteen hundred foot reels working; two reels for original picture, geared to two reels for the accompanying sound track. The harrowing experience occurred on the evening of the surgeon's departure for a month's vacation, at which time he left the author a ninety-page manuscript to be translated into film sequences. This film of twenty-seven thousand words would have taken more than four hours to present! With considerable effort, this was condensed to one-third its running length. A further complication was the fact that the doctor wished to be his own commentator and turned out to be a slow-speaking individual with a well-defined southern drawl. Naturally, this film turned out to be the lengthiest film in medical photographic history. I hope that this doctor who felt victimized by my final fee, reads this chapter and accepts my apology at this late date for our mutual inexperience.

Comparison Between Surgical and Clinical-Type Films

One of the most common reactions among the uninitiated in medical cinematography occurs when the term "medical motion pictures" is used, bringing the rejoinder "Oh! you mean pictures of operations!" thus indicating that surgical movies is their only concept.

Even though the surface of either field has barely been scratched, the scope of surgical motion pictures is limited as compared to the value of films on general, clinical, or diagnostic problems. At best, the surgical film, although an important one, can only become an adjunct in teaching surgery. Through study of films, the student may discover a new approach to some important pathological problem, or he may pick up some interesting anatomical malformation and learn about some remote or associated specialty. However effective the film may be, it cannot replace the feel of tissue in the surgeon's gloved fingers, the clamping of blood vessels, and the reaction of the cutting of the surgeon's scalpel, nor the experience he gains from constant surgical practice.

In the field of general clinical medicine, however, the entire regimen of handling a patient may be portrayed to the inexperienced doctor, who then learns the complete technique. A doctor who is uninitiated in the handling of a particular disease entity may, with perfect faith, accept the recommendation in the film, and thereafter diagnose and treat his patients accordingly. The one proviso, however, is that the subject matter be presented in collaboration with some eminent medical authority who is accepted by his colleagues as an authority in his field. If a younger member of the profession makes a film report, he should endeavor to study the medical literature and quote authorities who may in some measure contribute to or confirm his research.

Textbook Type of Presentation for Medical Films

If the film is prepared in this fashion, its value is increased because the base is being broadened sufficiently to interest diverse medical groups who would normally not be at all impressed by the scope of the subject. It is the author's belief that a properly executed film must function as a motion picture textbook, and that it must follow the accepted practice of teachers of medicine who use textbooks extensive-

ly. Motion picture films will take the printed copy appearing in a well-edited textbook and relate it to visually illustrative material, and then tie in scenes of action to the sound accompaniment in order to maintain active audience interest. The teacher places greatest reliance in that textbook which discusses both pre-medical and post-graduate teachings. In such a properly organized teaching aid, the book is sectionalized so that the broad aspects of the subject are first presented. Succeeding chapters take up anatomy, etiology, pharmacology, patient's history, treatment either surgical or clinical, and may include efficacy of treatment by statistical presentation or breakdown of results. Basically, this is the rough outline of any well-presented film, and its pattern is that of the textbook.

Differences of Opinions Among Doctors

It is proper to concern oneself with trends of teaching in various sections of the country. Probably no two medical schools agree wholly with each other's methods; eventually, by critical discussion, the best method or technique is developed. It is up to the producer to determine whether the film should be controversial and bring out these diverse teachings, or whether it should omit any controversial statements. It is the author's feelings and experience that the voicing of such differences of opinion pose both sides of the problem and make for a lively and interesting discussion following the showing of the film. The net result is that the audience leaves with a feeling that it has witnessed a definite contribution to teaching, even though it may wholly or in part disagree with some of the statements. By all means, a producer should incorporate so-called contra-indications to a man's technique. If he does not, either a destructively-minded or constructively-interested member of the profession will bring them out for him. Once it is presented in the film, a subsequent mention of it cannot minimize the importance of the film as a contribu-

tion to teaching. However, if this factor is ignored, the discussor can very easily steal the show away from the author of the film by elaborating on the contra-indications, claiming that the producer feared to bring them out.

For example, several years ago with the advent of sulfonamides there was considerable discussion whether the sulpha drugs could mask certain subsequent symptoms. In one of the author's films, *A Clinic on Acute Mastoiditis,* a difference of opinion arose between the otologic surgeon and the pediatrician. The pediatrician coming across a chronic or acute mastoid infection immediately used the new sulfa drugs. The specialist in otology felt that the use of this drug was only palliative and that certain symptoms would be masked, thus leading to future hard-of-hearing in the patient and eventual deafness. Such a dispute cannot be resolved accurately, unless several generations are studied comparatively on the basis of records. Statistics resulting from such studies would be difficult to interpret because of the many side issues involved. This controversy was settled in this film by presenting both issues and leaving the final decision to the audience's own interpretation. While in the above case it would take several generations to settle the hard-of-hearing claim, keeping such a problem open in the film extended the effective life of the film. If a great number of positive statements are made, and if subsequent reports prove these remarks erroneous, such a film loses its effectiveness. Therefore, care should be exercised in planning the film so that its normal life can be maintained.

Life-Expectancy of a Medical Film

In the motion picture theatre, producers of entertainment films figure on a three to six-month's life expectancy for their major productions, from which they receive their major revenues before the films go to second and third-run houses. From there on, most of their revenues are very nominal, although extensive showings are made in small communities, and when

most of these are completed within another four months, they finally end up with 16-millimeter showings before churches, clubs, and shut-in groups.

In a medical film, the life expectancy should be at least three years; some of our films are still being shown eight years after production. This is because the techniques illustrated are basic and have withstood the test of time. If the question arises, "how can you find new audiences for such old films," the answer is that new medical students arrive at medical schools each year. Remember that a new crop of internes comes to a major hospital every six months.

Maintenance of Professional Ethics in Medical Films

In order to guarantee that medical ethics are always observed, the proper editorial policy is that, while the film production is carried out by expert medical photographers, all matters pertaining to medical techniques or treatments be supervised by a chief of that department of a medical school under whose direction such a subject would normally be taught. Such an individual and his school should have a national and international reputation of high scholastic standing so that his recommendations would withstand the criticism of his colleagues. The same high standards are maintained in film presentation as would be found in the reports which follow completion of research problems by these same medical schools.

Scope of a Properly Coordinated Medical Film

For example, in the study of thyroid deficiencies alone, a complete new avenue of research has developed in which the Thyroid Clinic of the Massachusetts General Hospital was one very outstanding contributor. This group, many of whose members are associated with Harvard Medical School, has developed one of the best integrated medical teaching films to date. It attempts to correlate general information along with

the many endocrinological factors, through a thorough bio-chemical analysis which satisfies both the research endocrinologist as well as the general practitioner.

The local country doctor only desires a before-and-after visualization of what he can do for the patient if he follows the recommended therapy. To understand the therapy, however, the general practitioner must first be taught to differentiate between what constitutes overactivity and underactivity of the thyroid gland, known as hyperthyroid or hypothyroid disease. Then he must be able to distinguish the etiological factors which causes the globulins in the blood to affect the pituitary gland which in turn inhibits the thyroid gland or vice versa. Variations in bio-chemical functions affect the patient in different ways, calling for various treatments. Types of patients from cretins, neglected from childbirth, to mild hypothyroids or those suffering from pituitary failures, are depicted so that the doctor can differentiate each classification. The contributions of various researchers in the field are analyzed so that advances in this field of study are chronologically demonstrated. The film shows how a geiger counter, found so useful in atomic research, is able to trace the function of the thyroid gland by its radioactive impulses. A biochemical assay shows how the enzymes in the blood build up the thyro-globulin constitutent. The film also demonstrates future possibilities of eventual synthesis which at present is therapeutically derived from purifying dissected thyroid glands of animals. Effects of medication are studied pharmacologically in animals and, through a system of measured dosages, is proportionately applied to the therapy of human beings.

It is amazing to learn how this simple thyroid extract is useful not only in thyroid disease, but can be used for treatment of obesity, anxiety-neuroses, schizophrenia, malnutrition, arthritis, anemia, and many other diseases. Lack of thyroid has been found to produce sterility in the female. All of these above factors have been closely knit into one thor-

ough film which takes in anatomy, etiology, physiology, pharmacology, differential diagnosis of the patient's conditions, the therapeutic variations for successful treatment of the patient, and the many other fields of treatment which eventually will lead to a better understanding of the effect of thyroid dysfunction on the body chemistry.

The Problem of Coordination for Proper Evaluation

We need only read the critical analysis of the reviews in the motion picture section of the *Journal of the American Medical Association* to understand many of the difficulties in the path of the producer. Not often do medical associations respond too favorably to the producer's effort, even with competent medical collaboration. What medical film producers look for are reactions similar to those of the review committee of the American Medical Association. In its review of one of the author's films, *Treatment of the Major Neuralgias,* this committee in its final remark after some mild criticism, stated "This film is a distinct contribution to Medical Education."

Reviewers very often, in seeing a film for the first time, are puzzled by the presentation of the subject. They see many ways in which such a subject could have been more ably presented. They feel quite often that the producer has wasted his time on non-essentials when, in their viewpoint, he should have followed a different trend of thought. Bias, of course, may even occur on either the producer's or the reviewer's side of the fence. To aid the reviewer, and for self-protection of the producer, it should be the producer's duty to prepare as detailed an explanation of the production problems as is humanly possible. The reviewing committee should then give the producer an opportunity to study their evaluation before publication, to eliminate unfair criticism or misunderstanding.

It should also be binding upon a review committee that they attach their names to such reviews so that they are not

incognito. Very often, when films are viewed *in camera* by committees of national medical associations, certain of their biting sarcasms would not be so prolifically printed if the authors were forced to stand on their own feet and make their names publicly known.

It should be the duty of any group of reviewers to foster improvement in the structure of medical films by constructive criticism which would aid the producers in future productions. One of the great problems today is that there is no system of evaluation which can guide the photographer to improve his product. The review committees established by two of our leading medical associations have not as yet published any standards of quality which can guide the individual attempting to correlate his scenario so that it will meet the final approval of an unknown group of critics.

As an example, one of our leading surgical societies, in passing judgment upon a sound and color film, *Anatomy of the Ear,* made the criticism that such a subject should have been covered either by lantern slides or stereoscopic motion pictures. To the writer, it seems a sad reflection upon this society's own effort in furthering their own motion picture program, which they started many years ago, when they state that lantern slides are more adaptable than a sound film to portray any subject. Their second recommendation, that stereoscopic motion pictures should have been used, was so visionary and impractical that the statement was ridiculous. No stereoscopic motion picture projectors are available today, except on an experimental basis. Yet these critics have maintained their critical attitude in spite of the fact that many anatomy departments of medical schools have used this film and praised its content.

Recapitulation

In recapitulation, the following points should be observed.

1. It is essential that a constructive plan be organized before any medical film is produced.

2. That the scenario outline both scene content and commentary whether they contain only silent titles or have sound accompaniment.
3. That the special conditions of medical cinematography be analyzed to eliminate the redundancy found in medical articles.
4. That the problems of *surgical* motion pictures be differentiated from the *clinical* type of picture, and that each division have its respective problems broadened to the point where they are visually understandable without too lengthy follow-up discussion.
5. That any contemplated film be produced under the direction of a medical specialist or teacher in a medical school, who is expert in his field of endeavor, and who commands the respect of his colleagues throughout the world. This should be particularly important where new techniques or treatments are recommended.
6. That the scope of the film be broad enough to cover the different practices as taught by the many medical schools in this country, thus overcoming the sectionalism or provincialism which has retarded progress in teaching.
7. That the content of the film be planned similar to a textbook wherein a step-by-step visualization of the problem is built in front of the audience, from its elementary aspects to final involved research.
8. That state and national medical societies be consulted during production in order to introduce a national viewpoint, wherever possible, and gain acceptance of the film by these national medical societies.
9. That a set of standards be promugated wherein the producer could ascertain what conditions are laid down by these national medical societies which would predetermine acceptance of the film.

10. That review committees be set up by such medical associations, and that their reviews be published so that their respective local societies or hospitals be advised that a particular teaching film is available.
11. That medical schools with photographic departments and medical cinematographers consult each other to prevent overlapping of effort.
12. That in production, all art media such as anatomical models, diagrams and animations, specimens from the anatomical laboratory, pharmacological research, treatment techniques, and case histories of patients as well as statistics of therapy, be welded into a cohesive production so that those who see the film for the first time may understand each phase of the subject.
13. That visual education departments of medical schools be encouraged to use material from other schools, and that teachers use such materials even though their teachings are not worked up to the degree of perfection which they desire.
14. That the audience appreciate the fact that months and sometimes years of effort go into a successful film production which upon completion may be shown in a half or three-quarters of an hour.

CHAPTER XXII

THE FILM IN RELIGIOUS EDUCATION

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The motion picture is widely accepted in church and synagogue as a promising and powerful new medium for the teaching of religion. Forward-looking leaders are appraising the film in relation to the fundamental objectives and process of the church because they are challenged by the times to improve religious education in extent and in quality.

In this chapter the term "church" will be used as the basic designation to cover all three of the great faiths. In like manner, "religious education" will be used as the comprehensive term for all the processes of informal instruction within the church and the parish, including Sunday, weekday, and vacation time teaching programs. The term "film" will refer to the sound motion picture unless otherwise indicated.

Five general aspects of the use of films in religious education will be considered: production, evaluation, distribution, utilization, and administration. The treatment of each theme will be in the nature of a survey of the current situation and a brief discussion of some of the more pressing problems as the church seeks to understand the fundamental nature of visual materials and processes. While the church has made commendable progress in understanding and applying visual techniques to her work, she has a great distance to go and must

be quite careful about the general direction of her efforts.

There are certain factors which limit and delimit the use of films in religious education. They need to be appreciated and remembered as every aspect of the subject is discussed. They are: inadequate hours for religious education; non-consecutive teaching periods; lack of adequate and suitable facilities; the use of volunteer personnal in teaching and, the scarcity of films which were designed for use in religious education.

Taken as a whole, the church uses approximately one hour per week for religious education. While greater than the average for all three faiths, the amount of time available for religious teaching in the synagogue and the Catholic parish is considerably restricted. The effective use of films demands more time than many leaders find available. There is a tendency to feel that, in an over-crowded time schedule, something important must be left out if films are brought in. This consideration acts as a brake upon the utilization of films, and has caused educators to ask their institutions for more time. Here and there progressive churches are devoting as much as two and one-half hours to religious education on Sunday mornings, and many communities supplement the Sunday program by various types of week-day and vacation-time instruction. The desire to use films and other visual media tends to expand the total amount of time devoted to religious education.

By and large, the hours devoted to religious education in the church, synagogue, and parish are not consecutive. Teaching periods tend to be one week apart, with the result that the effective utilization of films in religious education is weakened. Also, the immediate preparation of the group, the presentation of the film, and the first phase of the follow-up must be accomplished within approximately one hour. While the group can be oriented earlier toward the film-centered instruction to follow, the creating of specific readiness must be

left for the session in which the film is used. Otherwise, the mental evaporation would be too great for effectiveness. One hour may be adequate for certain types of utilization, but where worship or discussion is undertaken it is not adequate. In the public school the interval between sessions is short enough for readiness to carry over, and the film-session will be recent enough to be followed-up the next day.

The utilization of films in religious education is hampered by the lack of adequate and suitable facilities and equipment. The educational programs of churches are often housed in make-shift quarters. Where separate departmental and class rooms do exist, they may be inadequate in size and poorly furnished. Even in the most modern educational plants, scant provisions have been made to expedite the use of films in teaching and worship. Rooms have not been provided with shades for darkening, and when dark-out facilities have been installed, the normal ventilation is impaired. While many leaders have extemporized with remarkable ingenuity, the basic lack of suitable facilities limits and hampers the use of motion pictures in instruction and worship.

The value of the non-projected visual aids has been recognized for many years. Their use, however, has not required the outlay of substantial sums of money for equipment, and many churches have been slow in purchasing the relative expensive apparatus which films require. Churches which budgeted generously for religious education were unable to secure film projectors during the war years, and thousands of orders remain unfilled.

Another background fact bearing upon the church's use of films in religious education is the volunteer basis of her teaching personnel. The synagogue, a few unusual churches, and parish schools are notable exceptions. Taking the teachers of religion in the local church and parish as a group, the volunteers compose a large majority, and in this group the trained teacher is a very small portion of the whole. It should

be noted that the trained teacher seldom has had courses in the nature and uses of visual aids. The reluctance of the professional and lay religious leaders to use new materials and methods is a serious occupational diseases of this group. While many church school teachers do a fair job with other visual media, the film over-taxes their ability and skill.

With an exception here and there, most of the films which the church is using in religious education have not been created for this specific purpose. This lack of tailor-made films constitutes one of the basic factors in the present and future visual supplementation of the religious curriculum. The omnibus film requires an excessive amount of adapting when brought into an educative situation intended to produce certain learning outcomes. In like manner, most present films in their construction presuppose no specific utilization technique, and, taken as a whole, they have not been aimed at any particular age or cultural level.

To summarize: The film in religious education must be understood against a background characterized by five basic facts; the church devotes a limited amount of time to religious education; the teaching periods in the church are not closely consecutive, having a lapse of one week of time between them; the church has not provided adequate and suitable facilities and equipment for religious education; the program of religious education has been in the hands of volunteers who have had little or no pedagogical training; and the church has been obliged to use films which, for the most part, have not been designed for religious education.

By the beginning years of 1940 the interest of religious leaders in the educational motion picture began to shape into what might be called a movement. To expedite the distribution of films to the local church, and to acquire distibution rights in certain films, the publishing houses of the larger denominations formed the Religious Film Association in 1942. In the summer of 1944 the International Council of Religious Educa-

tion sponsored the first international workshop in visual aids, at which more than two hundred denominational, area, and local educational leaders attended. The success of this first workshop augured well for the future. Those who attended it, and the second one in 1945, became the local and denominational pioneers of the movement in a very real sense. Scattered all across this country and Canada, they have organized institutes and workshops, taught courses, written articles, and accepted the calls of their denominations for many services.

The movement to utilize films in religious education is reaching every denomination and religious group. Visual aids, including films, now supplement the materials of church, synagogue and parish schools. The leaders of these schools are aware of the need for better films and more adequate methods. Colleges, theological seminaries, and universities are being encouraged to offer courses in visual aids, and a few of the more progressive schools for the training of church leaders are beginning to supplement their regular courses with films and other visual aids.

The Protestant Film Commission was organized in 1945 by the national boards of nineteen denominations and thirteen leading interdenominational agencies. The purpose of the commission is two-fold: first, to produce and stimulate the production of high quality dramatic and documentary films with a spiritual theme for distribution in 16mm to churches, clubs, schools and community groups; second, to encourage the entertainment motion picture industry in the production of films of moral and artistic values, to encourage the production of films on positive religious themes, and encourage greater depth and freedom of expression on the screen.*

Outside the Protestant field cooperative efforts in the production, distribution, and utilization of films in religious education has remained largely on a local level. However, it

* This Commission's first film production, *Beyond Our Own,* was released November 10, 1947.

is safe to predict that within the next decade the production and distribution of films for synagogue and parish will be coordinated at the national level.

A discussion of the historical backgrounds of the movement for "visual education" within the church is outside the scope of this chapter and the reader is referred to a book by William L. Rogers and Paul H. Vieth, *Visual Aids In The Church.*[1]

Production

Who produced the motion pictures now being used in church, synagogue and parish? They have been produced by all kinds of agencies: by denominational and interdenominational agencies and boards; professional producers, with and without the cooperation of the church; by all types of governmental agencies; by foreign governments; by explorers and adventurers; by colleges and universities; by philanthropic and benevolent organizations; by endowments and foundations; by local churches and laymen of the church; and, by commercial and industrial concerns.

So varied is the interest of the church in the world that she has found all manner of films of value in forwarding her objectives:- if some corporation sent a caravan across India or Africa, the filmic record of that trip was interesting and instructive to those who were supporting missionary work among the peoples visited;[2] if a temperance organization made a good film on alcohol, the church appropriated it for its educational work;[3] if a foreign government sent films to interpret its people and country, the church was quick to seize such of these films as would advance her educational objectives.[4] The church has used such school films as *The Wheat*

[1] The Christian Education Press, Philadelphia, 1946. 214 pp.

[2] *Wheels Across India* and *Wheels Across Africa,* Dodge-Chrysler Corp.

[3] *It's The Brain That Counts,* Women's Christian Temperance Union.

[4] Films illustrating this type are: *Changing Face of India, Made In India,* and others, from the Government of India Information Services; *Peoples of Canada* and *Eskimo Summer,* and others, from the National Film Board of Canada; *Children of the City, Achimoto, Father and Son,* and others, from the British Information Services.

Farmer[5] and *The Teacher as Observer and Guide*[6] in the training of its teachers in methods. During the war the church made extensive use of all the films produced under the auspices of the Coordinator of Inter-American Affairs to acquaint its constituency with these little-known fellow Americans. While the church will insist upon the production of more films tailored to its particular needs, it will continue to acquire by adoption.

The 1947 catalogue of the Religious Film Association lists nearly three hundred films. They are classified according to content, under such principal divisions as: The Bible and Bible Lands; The Bible, Its Translation, Distribution and Use; Episodes in the Life of St. Paul; Christian Achievement; Christian Life Problems; the Church in Action Today; The Family; Worship, and Church Architecture. Under Leadership Education, there are films in three subdivisions: church school methods, creating visual aids, and working with children and youth. In this catalogue, films will be found on inter-faith relations, international relations, economic problems, postwar problems, and on public health and safety. In the Missionary section there are two types of films listed: those presenting the cultural, geographical, and occupational backgrounds; and, those which present missionary institutions and their work.

From the standpoint of film structure the church is using all types of films—documentary, dramatic, instructional, and promotional. The church needs more and better films in each of these categories. It needs to develop the general specifications for an emerging type—the inspirational film for use in services of meditation and worship.

Taken as a whole, the films which the church is using today have two dominant characteristics: they are poor in quality, and they have been designed for no specific purposes. Compared with the best entertainment films, the highest rating

[5] Encyclopedia Britannica Films.
[6] Teacher's College, Columbia University.

church films would be considered weak on many counts. While there are many exceptions, the average films intended for church use frequently have poor photography, inadequate lighting, unartistic composition, and awkward camera angles.

A critical study of present film production indicates several fundamental principles which should be applied in future production of films for use in religious education: (1) there must be closer liaison between films producers and the church; (2) the producer and the user must see the film as a self-contained teaching tool, possessing the power to bring about educational results with a minimum of supplementation; (3) film production for religious education must concentrate upon the indispensible core of the religious curriculum rather than upon the periphery; and (4) the center of gravity must move from subject-matter to the needs, interests and abilities of the pupil.

To summarize: The film resources of the church today are a heterogenous mass of unorganized and unrelated materials which were produced to some extent by the church, but principally by those having a financial rather than educational interest in films. Generally, existing films are of low quality on most counts. Future production must be characterized by closer working relationships between producer and consumer; by the development of a type of film which can act as a pivot for educative situations and procedures, in order to become a part of the core curriculum of the church; immediate production must center on films in the *basic* areas of the general curriculum of religious education; and the center of gravity of teaching films must shift from the logical presentation of subject matter *in vaccuo* to the presentation of subject matter in relation to the center of the educative situation, the pupil himself.

Evaluation

The present utilization of motion pictures in religious

education is seriously handicapped by the general lack of accurate and reliable evaluations of old and new films. The development by the church of a systematic evaluation of all films intended for church use will stimulate and improve the production and use of films in religious education. Producer, distributor, and user are flying blind when they cannot turn to reliable and objective evaluations of the materials in which each one has a special interest. The producer wants to know how his productions are being rated by the church; the distributor who is trying to serve a church clientele wants and needs some estimate of the films he would buy or lease; the educator in the local church wants more reliable information about a film than can be gathered from producer-inspired releases, hearsay, and the limited information which catalogues can carry. While the detailed implications of this critical need cannot be dealt with here, several of the larger considerations will be discussed.

The most fruitful and effective approach to evaluation will be on a cooperative basis. The churches are interested in the same films and every communion will profit by their careful and objective evaluation. Since there are already two church-created agencies in the field—the Department of Visual Education of the International Council of Religious Education which deals with all visual media, and the more recent Protestant Film Commission dealing with films exclusively—the new agency for the evaluation of films should stem from one or the other of these two organizations. Either one could mobilize the requisite know-how for a national board of evaluation and review for the religious field.

The work of such a board of review and evaluation would have a two-way effect: one would be to improve gradually the quality of all religious films; the other would be to provide distributors and users with information basic to intelligent choice and use. The careful and conscientious producer would be benefitted in the long run, and the careless and indifferent

producer would be traveling at his own risk. If the board of review and evaluation is the creature of the church, the church will be induced to accept and support its judgments and to give them the widest possible circulation in the religious press. When the religious press generally has access to the reviews and evaluations of experts it will be less inclined to publish the "evaluations" of uncritical and enthusiastic users, and will not be obliged either to discount or accept the extravagant releases and publicity materials which emanate from some producers and promoters.

To be of greatest value to religious education, the evaluation of films should be related to three categories of qualities: its basic quality as a motion picture; the organization and accuracy of its content; and, its general utility. Under each of these categories, specific criteria should be developed and revised from time to time.

Distribution

It is a well-accepted principle that frequency of film use in religious education is related to availability, and that availability is a coefficient of distribution. The qualities and capacity of any system of distribution is not revealed until the volume of usage reaches the upper limits of its potential. As long as the demand for films was limited, both by the fewness of projectors and the absence of enthusiasm for films as teaching materials, the weakness of the haphazard and heterogenous distribution of church films was not revealed. As the demand for films increased year by year from 1940 on, climbing rapidly after 1945, it became apparent that distribution presents a constellation of problems which the church field must face, and solve.

There are two points of critical dissatisfaction with the distribution of religious films as it exists at present. The first concerns the ultimate consumer—the local church that seeks to secure a film for use on a specific date. It puts in a re-

quest for the film through the channels which have been indicated to it and in a week or ten days gets a reply to the effect that all the prints of the film are in use and that the order cannot be filled. In some instances this reply is accompanied by the suggestion that an alternative date be indicated, and in others the local church is asked to select another film. This time-consuming process may not exhaust the patience of professionals in religious education, but it leaves the volunteer worker depressed and wondering if "something cannot be done about distribution."

The demand for the seasonal films—Easter, Christmas, Lent, Thanksgiving, etc.—has grown rapidly, and present distribution arrangements breakdown even more critically. When five thousand churches want one of these seasonal films at approximately the same date, their demand can not be met by a dozen prints concentrated in big-city film depositories and film libraries. While the production of a greater number of seasonal films will help this situation, it is basically a problem in distribution and it must be appreciated and solved as such.

It is axiomatic that the closer a given film is to the ultimate consumer the more it will be used. While the print of an Easter film in New York can be sent three hundred miles and serve one customer, a locally-owned print of the same film can serve, under the conditions of local distribution, up to ten churches, because the film owner knows personally each user and the users arrange among themselves the transportation of the film. Thus, the conditions of utilization indicate clearly that no system of distribution based on long-range service will ever work with satisfaction to the consumer unless these central depositories carry an enormously large number of prints of each film. Since each print will earn only a few rentals per year, there is no way for the purchase or lease price of these prints to be recovered.

Any ultimate and fruitful solution to the problem of film distribution in religious education will rest upon a number of

basic principles which can be discerned by thoughtful and objective evaluation of current experience. There is space only for their statement:

1. In the long run, every film must earn the total cost of its production plus a reasonable profit for the producer or owner.

2. Since religious education is one of the central and valid concerns of the church, its effectiveness and expansion must not in any way be hampered by any organization or agency of the church which in any manner puts profits on the distribution of religious films to the local church above educational values, for profits are secondary to the fullfilment of the church's basic mission of preaching and teaching.

3. The implications of the fundamental law, that availability stimulates and expedites use, must be applied in appraising the capacity of existing and future systems for the distribution of films to serve the ultimate consumer in a manner consistent with the principles of educationally sound utilization.

4. The extensive future requirements of the church for religious films can be met only if prints of every film are available for outright purchase by every organization, church and non-church, desiring to circulate the print and meeting the ordinary requirements of a business concern.

5. In the educational field it must be recognized as a principle that the rental price charged the ultimate consumer must bear a direct ratio to the price paid for the print and the overhead costs of distribution, rather than to the production cost of the film.

Utilization

The current use of films in religious education has three dominant characteristics. By and large, the difficulty of proper and effective use of films has been underestimated and films tend to be exhibited rather than used. Due to the scarcity of good films bearing on the basic core of the curriculum there

has been a distinct tendency to use films which were roughly rather than specifically related to the curriculum. The results of film usage were expected to show up in the form of increased interest and attendance, rather than in greater knowledge and improved behavior.

Many churches have made the mistake of starting their use of visual aids with films. They have not appreciated the difficulties involved in using this visual medium, and have been content to put on mere shows rather than do an educational job. Such churches demonstrate that it is easier to get projection equipment than to get educational understanding. It is axiomatic that each church will use films with the same educational insight it uses all other materials. Films per se have no power to lift the basic quality and effectiveness of religious education. The mere exhibition of films fails not only to get educational results but it fails likewise to hold the interest of pupils after a time. Thus, pupils and teachers alike tend to be disillusioned with films, usually blaming the film as a medium for a weakness external to it.

The placement of films in the total program of religious education has, generally, been faulty. Films have not been fitted to the curriculum nor to the age and grade-level of the pupils. Not all this fault lies with the church. The scarcity of films and the omnibus character of the films have contributed to this uneducative situation. Having secured a projector in a wave of enthusiasm, the leadership of the church school has felt obliged to bring films into the program, often for no better reason than that they started out to "show a film every week." However, many religious teachers, especially in the children's division (first six grades), have been outstanding exceptions and have used no films unless they forwarded definitely the goals and outcomes they were seeking. As the number of graded films increases, the better-trained teachers will be quick to relate them to the requirements of the curriculum and the needs of the children. On this

point improvement is likely to be slowest in the secondary and adult division of the school.

Educational leaders, especially the teachers who have not had training in modern methods, tend to expect the use of films to result in greater interest and better attendance. Many projectors have been sold because churches were looking for ways to attract more pupils, to hold what they had, or to stimulate interest. In certain sections of the country, distributors have inspired the use of (their) films by promotional propaganda based on no sounder claims than increased enrollment and better attendance. Thus, educational leaders have tended to look for results outside the area of changed behavior which is the acid test of all educative efforts. Greater interest, increased enrollment, and improved attendance are the incidental by-products of more vital, interesting, and effective teaching: to seek them by the arbitrary insertion of films into the educational schedule is superficial and unwarranted educational practice.

1. *Extent of Use*

In religious education the *extent of use* is determined by a number of factors: knowledge of and about films; availability of films; rental cost; and, the availability of equipment.

Many churches secure projection equipment and then wonder where they can get films, having little knowlerge of films and their sources. Lack of knowledge limits use. As courses of study suggest the use of certain films, use increases. If the church has a leader or a committee whose job it is to become extensively familiar with films and film sources, film usage will increase. If this committee will study the total curriculum of the school, and out of its extensive knowledge of films, suggest films relating to specific units of study, the usage curve will climb steeply.

No other factor bears so heavily upon extent of use as does film availability. When films can be booked over the

telephone and picked up at a local distributor, use is tremendously stimulated. This does not mean necessarily that the local church should own films. It does indicate that groups of churches may set up cooperative film libraries. Already a number of city councils of churches (Louisville, Ky.; Oak Park, Ill.; Denver, Col.) have organized cooperative film libraries to solve, among other problems, the fundamental one of availability.

Extent of use is also related to cost. The small churches, and they are in the numerical majority, do not budget for religious education generously enough to afford the rentals which must be paid on many films. They may know about the films, and the films may be close at hand, but if the money is not available the films will not be used. Over the years these churches can be encouraged to budget more adequately for religious education; this the local leaders can effect. In a reasonable period of time the cost of films must come down; this the national leadership of the church must help bring about.

The availability of projection equipment obviously bears upon the extent of use. In some ways the war-shortage of projectors was a blessing to the churches—it gave them time to get educational understanding before they got equipment, with the result that it was used more effectively. While the ideal is for the local church to own a projector, many churches have not been able to afford them at war and postwar prices. When the church owns a projector it tends to use more films. The cooperative ownership of a projector by neighboring churches has not tended to work out satisfactorily. There are several good reasons for this, and churches should proceed with caution: churches tend to need projectors at the same hour of the day, on the same day of the week, and at the same seasons of the year.

2. *Quality of Use*

In religious education the *quality of use* is determined by

the suitability of the film to the objectives; the inherent quality of the film; the specialized ability of the teacher; and, the degree of control of the mental and physical factors of the educative situation.

In the church field very few tailor-made films exist, and the teacher must adapt most films to her purposes. The harder the film is to adapt to her purposes, the more difficult it is for her to do a quality job of teaching. Such a film is *The School,* in the Two Thousand Years Ago Series, because it was created to do a specific job, and will enable the teacher do a good job of presenting the kind of school which existed at the beginning of the Christian era.

The inherent quality of a film as a motion picture determines the quality of utilization. A good film is interesting to see and to learn from. A good film presents its material the way the mind wants to learn it, not the way the subject matter specialist might organize it. If a film is really good as a film, the easiest way to use it will be the right way. It is the responsibility of those who produce films to see that they are so made that they fit the contours of the mind. It is difficult to do a first-class job of teaching with second-class films.

As in all teaching, the skill of the teacher sets the upper limits of effectiveness, and in visual teaching it is the teacher's specialized understanding of visual materials and processes that limits effectiveness. Many good teachers tend to fail when using films. However, most good teachers will tend to acquire the new understanding and skill which films require. All the fundamental laws of teaching and learning hold for the visual media.

The management of the physical and mental factors in visual programs is a new challenge to most teachers, and one that many of them fail to meet successfully without help. In verbal teaching the teacher is in immediate control of the stimuli to be used, while in visual teaching this control is quite tenuous and more remote. The seating of the audience will

bear directly upon the effectiveness of the program, since seeing requires the positive control of seating. Thus, the seating pattern must be determined and the audience must be managed, if maximum effectiveness is to be achieved.

3. *Philosophy of Film Use*

The *philosophy of film use* in religious education is a question deserving attention, because future development as well as present utilization depends upon the ultimate answer to the question of whether films are basic or supplementary materials in the curriculum. In one sense, films are both basic and supplementary. They can be used as aids to other materials and methods, and are thus supplementary. Films also have the power to bring about the emotional and mental changes which constitute the essence of education. In this sense they are basic. In the words of a boy who saw *Faith Triumphant,* "St. Paul is somebody for me now."

Curriculum builders, accustomed as they are to working with the printed word and the illustrated page, tend to consider films as supplementary to this word-centered curriculum. The desired learnings can be brought about without films; a little easier with films. On the other hand, those less acquainted with curriculum construction and more familiar with the inherent power of the film, claim that films can be basic educative experience. If you see two robins building a nest, you do not then need to be told how it was done. You have *seen* it done, and seeing is knowing. It is so much so that the very idiom for the inquiry concerning the completeness of comprehension is, in common speech, "Do you *see* what I mean?" When your instructor proposes to proceed with his clarification, even when he intends to do it verbally, he says "I will *show* you." Thus, seeing and being shown are basic to mental processes. What is thus learned, of course, needs to be fitted into the stream of experience as, indeed, every semi-isolated learning is pulled into it.

In the sense that the film will be chosen as the best medium for the presentation of certain educative materials, films will stand in the religious education curriculum as basic materials to be themselves supplemented by the written and the spoken word. This concept, when applied to the curriculum of the church, will mean that every medium of communication will be used, and because the film alone possesses the power to present an effective illusion of reality, it will actually out-rank all other media. By means of the film, boys and girls will see a Palestinian home of two thousand years ago and hear the sounds native to it. It will bring distant peoples before their eyes. The labors of missionaries will be made real. They will see how things work out in the moral and spiritual world. This will be religious education. These film-induced experiences will be the raw material to be talked about, reflected upon, and integrated into the on-going stream of learning. Thus, the new curriculum of religious education will be an integration of many kinds of materials, each chosen because it can do a certain job better than any other medium.

4. *Problems in Film Use*

In the actual use of film in religious education there are seven problems needing brief discussion. They are: readiness, orientation, physical factors, preparation, program execution, immediate follow-up, ultimate follow-up.

(a). Readiness is one of the central problems of utilization. It may be defined as the conditioning of the group immediately before the film so it will react as the teacher desires. It is the preparing of the mind and the feelings of the group to think and feel as the teacher proposes. Without this conditioning they will learn something; with it the major learnings will tend to be what is desired. Readiness, therefore, relates to immediate objectives, and in order to create a readiness in the pupils to respond the way they should, the teacher must have very clearly in her mind her specific objectives.

The teacher must translate her immediate objectives from abstractions into the concrete: *What* to want your pupils to think? *How* do you want them to feel? *What* do you want them to do? *What* are they to see? *What* are they to appreciate, wonder about, or question? Are they to *recall* anything? Are they to *imagine* anything? Are they to experience the inner glow of goodwill? Are they to *hate?* Are they to be *thankful?* Until the teacher can set down what it is that she wants to bring about (immediate objectives) she is not ready to build her readiness (conditioning) program.

Eventually, the good educational film will have built-in readiness, at least to a degree. Already the experience of the makers and users of films with military personnel indicates the film itself can carry a few opening sequences which will condition the group to get the most from the remainder of the film. This technique (needing some refinement) is employed in the film, *Don't Be A Sucker.*

(b). Orientation is the long-range conditioning of the group in terms of the ultimate objectives of the curriculum unit. Because the teaching sessions of the church tend to be separated by week-long intervals, the introduction of films into the program will seem sudden and without purpose unless the group is oriented to what is to come and why it is to come. While readiness preceeds immediately the presentation of the film, orientation takes place on the two or three Sundays before film use. The content of orientation must be more than an announcement. It will locate the film in the educational schedule and share the purpose for its use with the group. These orienting statements should be carefully formulated by the leader. They can be given by the pupils, increasing their participation. Careful orientation, followed by thorough readiness, is essential to effective film utilization. It takes work, but there is no royal road of ease in education.

(c). The control of the physical factors in visual teaching are as basic to success as the control of the mental factors

through orientation and readiness. In auditory teaching, seating is no problem so long as every one is within hearing. Not so with visual teaching. Pupils must be kept within the angles of good viewing. The right degree of darkout must be secured. Ventilation must not be overlooked. The possibility of "accidents" and stoppages in projection must be minimized by careful forethought and preparation, even to rehearsal. The securing of the proper atmosphere by the right ordering of the room is basic. Distractions must be eliminated, whatever they may be. Here are new factors for the teacher of religion, each one needing positive and wise control if the use of films is to yield maximum results. Many teachers underestimate the need for control. Others resent the work involved. Some excuse themselves by asserting the superiority of the old methods.

(d). The problem of preparation is very real in the use of films in religious education. Unlike a textbook, which may be consulted at the teacher's leisure, the film must be previewed and studied *when it is available.* While the teacher may prepare herself for the use of a film at any time after the arrival of the film, if pupils are involved in the use of the film, they too must be prepared. If pupils are taking part in the readiness, a rehearsal is needed to insure smoothness in the execution of the program. Few teachers are expert enough in visual teaching to secure maximum results without rehearsal, for the very reason that effectiveness depends to a large extent upon the absolute control of all physical and mental factors *as the program comes off.* In time, preparation will be assisted by providing utilization manuals for each film. As improved distribution brings films closer to the ultimate consumer, preview and study will be made easier to arrange. Too many films, unseen and unstudied by the user, are now arriving by express and parcel post on Saturday morning, precluding the possibility of adequate preparation. Distribution which precludes previews, study, and preparation foredooms the film to ineffective use.

(e). How effectively the program is executed is the acid test of everything else. Program execution involves many things: securing and maintaining atmosphere; the prelude to readiness; readiness; the presentation of the film; evaluating the group's reaction in relation to the proposed follow-up.

Creating and maintaining atmosphere for film use is important and can be attained in many ways. If the accent is on worship, the ordering of the room should be such as to condition the group in this direction. Soft lights, quiet music, worship centers, lighted pictures and flowers can be used. The leader and all helpers should be dignified and reverent in manner. The first words spoken should be in the mood and manner to be induced in the group. It is wise to bring groups into a new setting when worship is to be undertaken in connection with films.

If the accent is to be on critical thinking and discussion, the atmosphere of the room can be keyed to the mood for this activity. Posters can be made of questions basic to the discussion. Blackboards can be used to present ideas and questions. Stimulating pictures can be about the room. Background information in the form of charts, maps, graphs can be on every hand. The group will be mentally stimulated and have momentum in the direction of the film by the time it is presented. Here the remarks of the leader can be expansive, interrogative, and her mood and manner can be one of objective inquiry and mental excitement.

The person in charge of the educative situation, and responsible for its fruition, *will observe the group* while the film is being presented. This opportunity to look into the faces, and through them into the minds and hearts of the individuals of the group, has been completely overlooked in critical writings on the subject as well as in general practice.

(f). The immediate follow-up of the film relates to the

immediate objectives which conditioned the readiness.[7] The principle to follow is to keep the follow-up in the same mood as the readiness, unless your observation of the reaction of the group to the film indicates a change. In one instance, ideas will be pulled together into conclusions; in the other, the answers to questions will be gotten from the group. At other times the give-and-take of discussion will try to leave all minds open for the quest of more information and better-grounded conclusions.

There is some question about what constitutes follow-up. For many teachers, only overt activiy is considered proper follow-up. Others, with somewhat deeper insight, know that mental activity can be adequate follow-up. If the immediate objectives have to do with information, then an informational test may be indicated. If critical thinking, appreciative understanding, or worship has been sought, the folow-up should relate to these things. Follow-up is clinching the driven nail; it is hemming the end of the cloth.

(g). The ultimate follow-up relates to the objectives of the segment of experience which has gone before and which is to follow. In it the woven cloth of learning is wound onto the larger spool of experience. It latches a segment of educative experience onto a larger whole. How is this done? More and deeper insights are needed here, but this much is clear—the adhesive which holds the immediate learnings onto the total of experience is *meaning*. Interest is not strong enough. Like film, which can best be cemented to film by an adhesive of solvent film, meaning can only be attached to meaning by meaning. Here is where film-centered teaching often fails, especially in the church. The relation of the part to the whole is never seen. A film on Paul is presented, but this experience with Paul is not cemented to that which gave Paul his significance, in this instance, the dynamic Gospel. The new mean-

[7] For a discussion of purpose in visual teaching, consult a brief article, "Beyond Entertainment," in the June 1947 issue of the Methodist magazine, *The Church School.*

ings emerging from the use of any film must be related by the leader to the whole, and not left for the pupil to do.

(h). Another problem of primary concern to curriculum builders, and of secondary concern to the educator in the local church, is the question of what units of the curriculum should be visually supplemented. It will be obvious from the start that not all units can be presented visually. Some units, by their inherent character, will be better suited to the medium of the film.

There are practical aspects to this question. When the scarcity of films is considered, and when the lack of skill in visual methods throughout the church is appreciated, curriculum builders will be wise to create visual teaching units for the basic core of the religious curriculum, avoiding the periphery. In like manner, visual supplementation should be indicated as the task of the departmental leader and not the classroom teacher in the church school. There are many reasons for this. She is usually better trained in general methods than the class-teacher. Many churches must hold down the cost of visual materials by using them with the largest group consonant with effectiveness. In the church this group is more likely to be the department, which covers three grades. Too, the physical conditions surrounding use will be better for the larger group as a rule.

For the local church this means that the visual supplementation of the curriculum should be at the point of *units* of lessons in the various curricula currently in use. There is neither material nor pedagogical competency for supplementing the individual lessons.

To summarize: If the foregoing consideration of these eight elements of film utilization indicate anything at all, it is that the use of films in religious education does not mean less work for the teacher but more. She will spend less time physically before her pupils, but she will spend more time in preparation. This preparation will be characterized by two

things if it is fruitful: a vivid awareness of her ultimate and immediate goals; and a first-hand insight into the needs, capacities and interests of her pupils. Her effort will be greater, and it will be more fruitful. This should be reward enough.

What of the future? Fundamentally, the improvement of film utilization in religious education waits upon several factors: better films must be devised and produced; the general teaching skill of all workers must be improved, especially their understanding and use of films; as future curricula are planned and developed, there must be an inclusion and integration of film units at the beginning and not the end of the process; the educational boards and agencies of the church must expedite the effective use of films by the development of utilization manuals for the more important films, and the keying of these films to relevant units of existing curricula.

Promotion and Administration

The promotion and administration of film use will be considered on two levels: (1) the denomination and (2) the local church. Within the denominational structure, film production and utilization will be the concern of those who attend to the larger educational interest of the church. Within the local church the promotion of film usage will be the task of those in charge of the educational program of the local church.

The present situation among the denominations is not uniform. In some instances there is a bureau of visual aids, with a director who serves the entire denomination. In others, the responsibility for visual aids is delegated to a secretary of a board of missions or education. Since the first use of films in several denominations was in connection with missionary promotion, one of the secretaries of these boards (national and foreign) usually is given the responsibility for promoting the use of films through out the church. When this is the case,

the educational board of the denomination sometimes lacks an aggressive interest in film production and use. Some of the smaller denominations have attached the director of visual aids to the general educational committee or board which is intimately related to the publishing interests.

Where should denominational responsibility for visual aids be placed? Every denomination already has enough separate boards and commissions, and for this good reason the promotion and administration of film use should be made the responsibility of an existing board. Even though films were first used in promoting missionary education and support, the general tasks ahead of the church today are of such importance and character as to indicate that the production and the administration of visual aids should be placed under the care of the general board charged with the educational responsibility. Films are used in the church for educational purposes. Promoting missionary interest and support is essentially an educational job.

Within the educational board of the denomination, the visual aids bureau should be more closely tied to educational administration and curriculum building than to printing and publishing. The person heading up this bureau should have extensive knowledge in four areas: he will need to know the film as a visual medium; he will need to know curriculum and lesson writing thoroughly; he will need more than a superficial knowledge of film production; and, he should know the local church and the conditions under which utilization takes place.

How can the use of films be promoted within the denomination? There is no better way to begin than by solving some of the problems which now limit and cripple effective utilization, many of which have been indicated in the preceding pages. It should be accepted, also, as a principle of promotion, that the use of films in religious education is not to be detached from the total program of education of the church.

The alert executive will find many opportunities to promote solidly the use of films in and through most of the meetings, conferences, schools, and assemblies which are already an integral part of the organized life of the church, as well as through new channels.

In relation to interdenominational agencies dealing with the motion picture, the denominational head should have power to represent his church on a parity with others. Unless this is so, the action of an interdenominational agency may collide with the basic principles and policies of the denomination. It is unwise to give responsibility for production to one person and place the responsibility for distribution in the hands of another. Denominational publishing interests may not be competent to determine over-all policy concerning films, and giving them responsibility for determining film distribution policies may limit film usage in the church. The distribution of films is intimately related to utilization and cannot be separated from it.

Within the local church the promotion and administration of film use should be considered a part of the total educational program of the church. Visual materials should be considered a part of all other materials and on a par with them. Visual methods should be considered a part of total methodology. Those who are given special responsibility for extending and improving the use of films in the educational program should be responsible to the board or committee determining educational practice and policy generally.

Editor's Note: For further reading on this subject, refer to Mr. Hockman's recent book, *Projected Aids In The Church*, Pilgrim Press, 1947, 216 pp., $3.75.

CHAPTER XXIII

THE FILM AND THE PUBLIC LIBRARY

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The American public library has a major role to play in the distribution and utilization of the educational film. The fact that libraries have been somewhat slow to accept their responsibility for films does not make the development in that direction less inevitable. Of the 300 American public libraries large enough to render this service, approximately 30 are doing so and the number is beginning to increase rapidly.

Contrary to an impression current in many quarters, the public library is not primarily concerned with books. The book is the principal tool in the attainment of its primary objective, the diffusion of knowledge. The library has other tools: pictures, maps, manuscripts, newspapers and periodicals. More recently, records and transcriptions have been generally accepted by libraries, and microfilm has, for many years, been a standard method of preserving and distributing research material. The objective of the public library is to collect, organize and distribute facts and ideas in whatever form these may be recorded. The educational film is the most recent, perhaps the most potent of these forms.

Distribution is, at present, the major bottleneck between production and full utilization of educational films by the adult public. The problems of production have been largely solved. Techniques and methods are in an advanced stage.

There are many excellent producers ready and able to make more and better films, if wider and more stable markets could be found. The scarcity of projectors, a major handicap before and during the war, is now rapidly being eliminated and greater accessibility of films would encourage purchase of projection equipment.

It is assumed that educational films used for educational purposes are best distributed by educational agencies. In the field of formal education, in the schools and colleges, the administration of films will be determined by the individual institution. In many cases visual education departments have been set up for the purpose. It is to be hoped that future consideration may include the school or college library as the logical central repository for film collections. The solution of this problem is not the province of this article. Its purpose is to show that in the area of *informal* education the distribution of films is best performed by the public library.

Schools and colleges may, in many instances, be willing to serve extra-curricular groups, but in general their attention must be concentrated on serving the needs of their own classes. State agencies now serving informal education are limited by the inconveniences and uncertainties of booking and shipping by mail. Museums do, in some communities, make films available to the public but the subject matter tends to be confined to the museum's specialty: to the fine arts, natural history, or whatever it may be. Commercial film rental agencies have the most generally useful collections. The problem here is that their primary concern is quite naturally profit, not education.

The public library, on the other hand, has a long tradition of educational service to individuals and groups. Its staff is trained for this. The librarian's knowledge of reading interests and habits is equally applicable to films. He is trained in the techniques of program planning and discussion methods. He makes it his business to keep up with current trends

in the community as well as in the national and international scene. His interests encompass all fields of knowledge. The librarian assumes, as a matter of course, the responsibility of seeing that his materials are used to their maximum educational value. It is also natural to the librarian to collect and organize catalogs and sources of items not held in his own collection and to refer clients to this wider choice. The librarian has a reputation in the community for impartiality and is prepared to defend his institution against any uninformed accusations of propaganda which may be leveled against him.

The librarian is well acquainted with all types of informal groups in his community. He knows their educational needs, he advises them in their programs, suggests form and content of meetings, and assists their members in the preparation of papers and talks. A collection of educational films can readily be integrated into this process.

Administrative techniques which librarians have developed over many years for the management of their printed materials are readily adaptable to films. To be of maximum usefulness, a collection of films must be *organized.* A film is shelved like a book, it is loaned like a book, it can be cataloged, classified and indexed like a book. Its title can be included in a bibliography of books and articles on any topic. The only way in which the handling of a film differs from that of a book is that it must be more carefully inspected after use. This is a simple procedure in which a clerk or page can be trained in a very short time. The public library is an established agency in every community of any size. It is usually centrally located, easily accessible to all and its doors are open twelve hours a day or longer.

If the above arguments are sound in relation to film utilization through public libraries, what evidence is there to show that they have been carried out in practice? The earliest experiments by a public library date back to 1929 when the Kalamazoo (Mich.) Public Library embarked on a film lend-

ing program. The Tyrrell Public Library, Beaumont, Texas, followed ten years later. The experiences of both have been well described by McDonald* and need no further treatment here, except to state that in both cases the service has been continued and expanded up to the present time.

With the entry of the U. S. into the second World War the necessity of getting important information to a lot of people in a short time brought the 16mm film into its own. The Office of War Information, the Office of Civilian Defense, and the Co-ordinator of Inter-American Affairs soon made available a large number of educational and training films to any local agencies which could get them before the public. A number of publice libraries: Charlottee, N. C., Cleveland, Ohio, Dallas, Texas, Gary, Indiana, Grand Rapids, Midhigan, Millwaukee, Wisconsin, seized this opportunity to enter a new field.

The Cleveland Public Library's film service was inaugurated in September, 1942, as a result of a small gift of films to the local Federation of Settlement Houses. The Federation needed a central agency to manage this film collection, as no single settlement house wanted the responsibility. The Library, seeing the possibilities for future service and anxious to demonstrate its ability to do such a job, offered to handle the films for the Federation, to book and loan them according to their needs. Hardly had this small program got started when the government films were available and, with the aid of the local OCD a substantial number were requested and secured. Here was a nucleus on which to build. The Library appropriated $1,000 for the purchase of titles which would balance the collection of free films with classics like *The City, The River* and *Peoples of Canada.* Representatives of foreign governments were invited to deposit factual films with the Library, and in a cosmopolitan community such as Cleveland the material required in that fashion was in great demand. A few

* McDonald, Gerald D. *Educational Motion Pictures and Libraries,* Chicago: American Library Association, 1942.

commercially sponsored films were received by request. In two years the collection grew to over 400 titles, only a small proportion of which were purchased with library funds and an even smaller proportion made up of commercially sponsored films regarding which the library is very selective.

With the cooperation of the local OCD, the Council on Inter-American Relations and many other groups an active program of promotion was undertaken. Regular public screenings were given every Friday noon at the Library for the purpose of pre-viewing newly added titles. From the start, these were well attended by prospective users and have been continued successfully to present day. Annotated catalogs were given wide circulation. Branch libraries and other agencies demonstrated film forums and film lectures as fruitful means of getting maximum value from film showings, and a number of visual education institutes were conducted in cooperation with church groups, social agencies and other adult education agencies. All of this received full and favorable treatment by the local newspapers.

The Film Bureau was set up as a division of the Adult Education Department of the Library whose major function is to render advisory service to adult groups in planning their programs. Along with the Film Bureau, a Speakers Bureau is maintained, and program chairmen and other group leaders are invited to come for advice and assistance. In rendering such service the librarian-group adviser suggests films to be used, speakers, discussion leaders, subject content and form of program. Lists of books and pamphlets for collateral reading are also supplied. Films are thus made an integral part of a complete educational service to existing groups interested in informal adult education.

In smaller communities, where the school has no film library, the public library may undertake to serve school needs as well as that of the general public. In large cities, however, this is not feasible. Schools need teaching films; the general

public wants documentaries and films of a less formal type. If an adequate school film collection exists, the public library can concentrate on the out-of-school needs of young people and children. For the high school group, films are integrated into their informal, extra-curricular activities in much the same way as that described above with adults. With the younger children the problem is somewhat different owing to the scarcity of films suitable for the non-classroom use. A special committee of the American Library Association was set up in 1943 to study this question and a number of titles have been discovered which could be used to supplement the traditional story hour programs which are an important part of a children's librarian's work. Much needs to be done in the production of the kind of films which can compare with the captivating children's books which are such a necessary part of the out-of-school life of pre-adolescent childhood. The library's film service to children bears the same relationship to the school film service as its children's librarian's work bears to the teacher and the school library. Here is an area where the cooperation between the school and library film programs must be particularly close.

Although group use of films has been stressed, public libraries, as a rule, lend to individuals for family use. With the increasing availability of projectors, this area of service promises to expand rapidly.

The Cleveland Public Library's film service expanded greatly since 1942. In 1943 it started with 115 prints in its collection and loaned 7,707 films. In 1947 its holdings had grown to 850 films, and 23,918 loans were made with an aggregate attendance of 1,000,319. A similar growth can be reported by other libraries such as Charlotte, N. C., entering the field at the same time. Akron (Ohio) Public Library started its film service in October, 1945, and in 1947 it loaned 7,174 films to a total audience of 229,382. Since the war, such other important libraries as Detroit, Mich., Seattle,

Washington, Stamford, Conn., Cincinnati, Ohio, Minneapolis, Minn., have followed suit, and Baltimore, Chicago, Des Moines, Iowa, and others are studying the matter.

What are the costs to a public library of such a service? For large libraries like Detroit and Cleveland the amount is limited only by the extent to which the institution wants to develop it. Cleveland spent in 1947 approximately $6,000 on films and equipment and a considerably larger amount on personnel. Most libraries will be more interested in minimum costs. This depends, of course, on the number of usable films which can be acquired free of charge. For a medium sized library a minimum budget for the first year would be:

Films	$1,000
Equipment	500
Salaries	2,500
	$4,000

This assumes that one qualified person can carry on the work of acquisition, booking, and inspection and that no projection service is offered to the public beyond library-sponsored programs. Subsequent years will require a similar amount, subtracting the cost of equipment and adding the costs of a page or clerk to take the load of inspection from the film librarian. In smaller libraries the film work may, for a time at least, be carried by an assistant along with other duties, but it is difficult to see how this arrangement could long exist if full utilization were obtained.

The question arises as to what is the minimum size for a city which can maintain a public library film service. Its success in larger and medium sized libraries has been proved at Cleveland, Charlotte, Dallas and Akron. That libraries in smaller cities can perform successfully has been shown by the pioneers, Kalamazoo and Beaumont, which are in the 50,000 population class. Stamford, Conn., also in this group, is

highly satisfied with its new film program. Libraries serving 25,000 people would constitute a minimum size.

The average amount spent for books in libraries serving 50,000 to 100,000 population for 1944-45 was $8,675.00. Thus if 5% to 10% of the book budget were allotted to the purchase of films and an active effort were made to obtain gifts for the purpose from interested local groups, the cost would not be prohibitive. In terms of whole new areas of the community reached, of new friends made and expanded public relations leading to larger appropriations, the investment can be shown to be a very sound one. In the case of cities smaller than this there is room for experiment. Perhaps cooperation between two or more smaller communities or organizing on a county or multi-county basis may be the answer as it has proven to be in the case of book service.

It should be pointed out that as soon as a lending service is established it is not difficult to obtain financial assistance from borrowing groups for the purchase of films. In some instances it may be possible to obtain financial backing to inaugurate the service. The Akron Ministerial Association is now conducting a canvas among its members for funds to augment the library's holdings of religious films. As this is written $400 is in hand and a total of $1,000 is expected. Similarly such local groups as the Dental Society, B'nai B'rith, the T. B. Association and the Safety Council have presented or deposited subjects of special interest to them. The question of films sponsored by industrial firms is a controversial one. In the experience of this writer it is possible to set standards by which selected titles can be used with profit without offending those whose films must be refused. The future of government films is uncertain, but there is little doubt that free deposits in quantity such as were available during the war have largely disappeared. Films from foreign governments may be more plentiful as conditions abroad improve and their "information" services become more active.

The cost of individual films, running as they do anywhere from fifteen to three hundred dollars, seems high to libraries which are used to paying from one to five dollars for a book. However, if the number of people reached is considered, this disparity it not so great. One two-dollar book will be regarded as paying its way if it is read by fifty people, making the cost per loan 4¢. The average film, on the other hand, will be loaned one hundred or more times, and be seen by 10,000 people. If it cost $50, the cost per person served is 2¢, or half as much as the book.

Librarians have always worried about that large portion, two-thirds to three-quarters, of the population which does not make use of their book service. It should be clear by now that many people will not read books no matter how they may be threatened or cajoled. On the other hand, almost everyone likes to see films and as a rule they prefer good films to poor ones. By making films easily available, libraries reach, educationally, a large group of non-readers. These people are taxpayers and are entitled to services appropriate to the institution which they support. A leader or trailer spliced to each film carrying the name of the library and calling attention to the service makes for excellent public relations.

Public libraries in the United States make no rental charges for films, and there are instances where this may be regarded by commercial distributors as unfair competition. Most commercial agencies soon recognize that the library's participation so increases demand for projection equipment and other accessories that it is of real stimulus to their business as a whole. Booksellers long ago realized that the public library was a partner rather than a competitor, and the same principle applies to films. In Canada, where the proportion of public libaries giving film service is much greater than in the United States, fees are usually charged. It is probable that, as the program develops, such charges will be reduced or discontinued.

The question of whether the public library should supply projection equipment to film borrowers is still a matter of debate. Charlotte, N. C. has provided this service from the beginning,[1] but it is an exception. Most of the other libraries have done no more than assist borrowers in borrowing or renting projection equipment elsewhere. A library will need at least one projector for its own programs. Whether it can or should do more than that depends on the local situation.

The Audio-Visual Committee of the American Library Association has been actively encouraging member libraries to develop film service for many years. A study of the problem was made in 1941 by Gerald D. MacDonald under A.L.A. auspices resulting in the publication of *Educational Motion Pictures and Libraries.* Twice in 1946 resolutions were adopted by the Council, the policy-making group of the Association, urging libraries to enter this field of educational service. Efforts have been and are still being made to obtain a foundation grant for the purpose of employing a staff which would advise and instruct libraries in getting film projects started.[2] Leaders in the film world recognize the enormous potential role of the public library as a local distributor of films, pointing out that if two or three hundred such centers existed throughout the U. S. and Canada they would constitute a market which would be a great encouragement to the production of documentary and educational films of high quality. Furthermore, such a group of distributors would be a sensitive index of the film needs of the people served. By providing a market and accurate information of the subjects demanded, public libraries would render an invaluable service to producers who are anxious to supply films calculated to improve public understanding of the many current problems which press for solution.

[1] See: Galvin, Hoyt R. "An Educational Film Servcie is the Library's Responsibility." *Library Journal,* Aug. 1944, p. 637-8.

[2] Such a grant was made in early Fall 1947, to launch the two-year Film Project of the American Library Association.

The American Library Association has cooperated with other groups interested in the development of the educational film. It has supported the Educational Film Library Association from its beginning in 1942, maintaining a Joint Committee for the clearing of problems of mutual interest. It maintains membership in the Joint Committee on Film Forums which has played a major part in experimenting in this highly significant method of public discussion. It is a charter member of the Film Council of America and its predecessor, the National OWI 16mm Advisory Committee.

There are 290 public libraries in the U. S. which have annual budgets of $25,000 or more and together these libraries serve 50,000,000 people. It is not difficult, in the light of the successful experience of a few of them, to envisage a time when all of these libraries and perhaps a great many more smaller ones will be handling films as freely and as easily as they now distribute books. When that times comes a long step will be taken towards making films easily available for community and family use. The resulting expansion in use will stimulate the production of better films on a wider variety of topics. The cause deserves the support of all who recognize the enormous potential power of the educational film in the development of enlightened citizenship in a world sorely in need of that commodity.

CHAPTER XXIV

FILMS IN THE FEDERAL GOVERNMENT

CHESTER A. LINDSTROM
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In any democratic nation there is a dual responsibility shared by the government and the people: that democracy functions best wherein there is least separation between the people and their government. The government itself should be the expressed will of the people. It logically follows then that the best government will be achieved by a populace which is kept well informed in order that it may reach clear, intelligent and valid conclusions on any question, large or small.

As the servant of the people, the Federal Government of the United States—and its component parts, the departments and agencies which constitute its framework—has the responsibility of informing the American people of the progress made in activities assigned by their elected representatives, the President and Congress. Where the motion picture can be employed effectively in getting information to the people, or assist the government in its various activities, it is to the interest of both the taxpayer and the government that such a medium be utilized, within the limits of directives and funds.

Because they know that the motion picture is an efficient and economical medium with which to disseminate information, present facts and problems, and point out solutions, many federal agencies have long used it as an aid in carrying out their responsibilities. The purposes for which films are made

and used are as varied as the needs which our 140,000,000 people express through their Congress.

Agriculture Department First to Use Films

In 1908, the Department of Agriculture made the first motion picture ever produced by an agency of the Federal Government. Since that date the Department has made well over a thousand films.

The film work of the Department of Agriculture stems from the basic legislative act establishing the Department, in which it is given the obligation "to acquire and disseminate" information related to its activities. In the early years of its existence, the Department's dissemination of information took the form of technical bulletins, which were more often than not too profound for the average farmer or layman to comprehend. These were followed by bulletins written in language which was comprehensible, and these soon became known as "Farmers' Bulletins."

Today the Department of Agriculture makes use of every means of "dissemination" to convey useful information to the people, the farmer and homemaker in particular—including press, radio, exhibits, and motion pictures. It was in 1912 that the motion picture was recognized by the then Secretary, "Tama" Jim Wilson, as an effective aid for reaching the farmer with valuable information. In that year he established the nucleus of what is now the Motion Picture Service of the Department. The role which the motion picture was selected to perform has not changed since that time, except as the responsibilities and activities of the Department have been expanded. Now, in addition to agriculture, the films treat such subjects as nutrition, home economics, marketing of farm products, regulatory activities related to the farm, range and forest and the products of each.

Distribution of agricultural films is conducted through 76 cooperating educational film lending libraries located prin-

cipally at state universities and colleges in each of the 48 states, Puerto Rico, Hawaii, and Alaska, and through some of the Department's own field offices. Under cooperative agreements with the Department, these libraries undertake the distribution of these films at no cost to the Department. The charge to borrowers ranges from no cost at all to a nominal fee, depending upon the policy of the individual library. Some 10,000 prints on about 150 subjects are now in circulation.

Having definite purposes to accomplish through the production and distribution of films, such as the introduction of conservation practices, prevention of forest fires, control of insect pests and animal diseases which might endanger public health, the Department makes as many prints as funds will permit available to cooperating libraries, which undertake distribution without cost to the Department. Prints may also be purchased by anyone who wishes to use them. Thousands of prints have been placed in circulation by purchasers here and abroad.

The Motion Picture Service issues a catalog annually of films in circulation, listing also the libraries from which prints may be borrowed or rented and giving other pertinent information. A copy of this catalog may be obtained on application to the Motion Picture Service, U. S. Department of Agriculture, Washington. No prints are available for loan from the Washington office.

The Motion Picture Service is a division of the Office of Information in the Department of Agriculture. It has the responsibility of producing or giving general supervision to motion picture production and distribution for the entire Department. For this purpose it must maintain a staff that includes script writers, directors, cameramen, artists, sound technicians, and laboratory personnel. Its facilities include a compact, complete laboratory, equipped to do all printing and developing except color; a sound stage; a special effects department; editing rooms; film vaults; and two projection

rooms. All rushes and answer prints are developed and printed in its laboratory. Bulk printing, however, is done under contract with commercial laboratories.

Two bureaus within the Department, the Forest Service and the Soil Conservation Service, have their own production crews working in and with the facilities of the Motion Picture Service, but all motion pictures of the Department are released and distributed by the Motion Picture Service.

On request, the Motion Picture Service also produces and distributes films for other departments and agencies of the government. Several agencies are now using these services.

State Department

With our rise to the position of the world's greatest democracy have come greater and more diversified responsibilities. One of these is that of helping to fill the intellectual and cultural void into which many of the smaller democratic nations were drawn during the war. Excluded from contact with the outside world and bombarded with totalitarian propaganda, stripped of cultural as well as material necessities of life, they are now on an intellectual shopping tour. Their cultural as well as material needs must be satisfied lest they drop from the democratic fold. This responsibility of the Department of State and the need for fostering democratic ideals and the democratic way of life throughout the world was succinctly expressed by the President of the United States in August, 1945, when he said: "The nature of the present day foreign relations makes it essential for the United States to maintain informational activities abroad as an integral part of the conduct of foreign affairs." The Department of State chose motion pictures as one important medium with which to attack this problem.

The films produced are those on subjects in greatest demand or those which will serve the greatest need, but primarily the program is aimed at presenting the American way of life.

Some of the films are produced by commercial concerns under contract or are re-edited versions of films produced by government agencies and commercial concerns. They are released in 22 different languages, making them understandable to most of the people on the globe. The work is conducted by the International Motion Picture Division, Office of International Information and Cultural Affairs, Department of State.

From January, 1946, to March 31, 1947, ten thousand prints were sent to the various embassies and legations in foreign countries. These use, so far as practicable, the established channels with the help of local organizations operating in the non-theatrical field. Hence the distribution pattern differs from country to country. Though only a small part of the actual distribution and projection is done at the expense of the State Department, the embassies or legations are supplied with projectors and in some countries, where local projection facilities are not adequate, with complete mobile projection units in order to supplement local facilities. The demand far exceeds both the supply of films and the capacity of projection equipment available.

That the program is successful is attested to by the fact that about ten million people of foreign countries see State Department films monthly. One hundred million people a year, through these films, are shown how we live and work, how we conduct our agriculture, our industry, how our health is guarded, the poor and the rich, our problems and how we solve them, in fact, how a democracy works.

The films produced for use in this program cover a wide range of topics and activities—agricultural, industrial, scientific and cultural developments, education, social and civic life, health and sanitation, large and small scale projects, etc. The films are avidly sought. In England, from negatives furnished, prints are made for showing in schools by a local film library. In Norway the films are shown in 200 labor halls operated by

the Worker Educational Association. In Sweden, where distribution is principally through cooperative organizations, 3,000,000 people out of a population of 6,500,000 saw 40 of the films in 1946. In France half a million people a month see the films. In Holland and others of the smaller European countries the interest is equally keen.

On this side of the Atlantic, through the wholehearted cooperation of the Mexican Government in supplying distribution facilities including projectionists, 1½ million Mexicans are seeing these films every month. In other Latin American countries there are similar cooperative programs.

Public Health Service

The Public Health Service has produced both popular and technical motion pictures on public health topics. At present the Service has about twenty such films available for general distribution. They cover subjects such as tuberculosis, dental health, industrial hygiene, venereal disease, cancer, and other topics affecting the public health. Not all of the pictures produced by or for the Public Health Service are available for general use. Those released for public showing may be obtained by application to local and state health authorities.

The Service's Communicable Disease Center at Atlanta, Ga., is producing films and filmstrips on tropical and communicable diseases for the primary purpose of training technical personnel of state health departments—doctors, nurses, laboratory workers, sanitary engineers, inspectors, and others. The films are available to state health departments or professional groups connected with health departments or the medical profession. Since these films are designed for specific training use, they are not available for other purposes.

The Public Health Service has available at Atlanta complete production units and facilities, including a laboratory and recording studio, with necessary technical personnel.

Department of the Interior

Guardian of most of the nation's mineral, wild life, scenic, oil, and water resources, and custodian of public lands, the Department of the Interior has long used motion pictures to disseminate information concerning the conservation measures outlined by Congress for the benefit of all the people. Charged also with the administration of Territories, Indian Reservations, and National Parks, the Interior Department also has used motion pictures to acquaint the public with facts concerning them.

The film activities of various agencies of the Interior Department were discontinued during the war with the exception of those of the Bureau of Mines, whose film work is financed by industry. This bureau, having the responsibility delegated to it by Congress of gathering information in the field of mining and other mineral industries, with a view to improving health and safety conditions and conserving resources, "and to disseminate information concerning these subjects," has found the motion picture an effective aid in carrying out this dictate of Congress. The Bureau has in circulation some 70 films depicting mining and metallurgical operations and related manufacturing processes, showing where minerals are found and how they are extracted from the earth and converted into commercial products.

Films of the Bureau of Mines are produced under the subject-matter supervision of a board selected from the technical staff of the bureau and under the direction ot the supervising engineer of the Motion Picture Section, Office of Mineral Reports. Actual production is done by commercial film producers under contract. The cost of production is borne by cooperating industrial concerns.

Prints of the films may be borrowed for educational and informational use by responsible organizations or individuals. No rental is charged, the borrower paying only for transpor-

tation. A complete lending library of the Bureau's films is maintained at the Bureau of Mines' Experiment Stations in Pittsburgh. Subsidiary libraries are located at universities and Bureau of Mines offices in 17 states. The Bureau issues a catalog of its films, containing a list of these libraries and information concerning the borrowing of prints. This catalog may be obtained on application to the Washington or Pittsburgh offices of the Bureau.

Veterans Administration

With the tremendous expansion of service to veterans made necessary by World War II, it became obvious that some means would have to be used to transmit to the millions of discharged soldiers and sailors and their relatives, effectively and clearly, information concerning their problems and rights on return to civilian life. There was also the need for training of disabled veterans and indoctrination of the greatly expanded force of workers in the veterans organization. This was a situation in which motion picture could be used effectively. Accordingly, the Veterans Administration has produced a series of 21 motion pictures and filmstrips on veterans and their problems, hospital care, training, as well as reports to the public on services available and rendered to veterans. Prints of these films are available on application to the Veterans Administration Branch Offices or to state university film libraries, most of which have prints of these films.

Office of Education

Although the greatest industrial nation in the world, the Second World War found the United States short of men skilled in mechanical arts. The need was urgent for quickly training large numbers in basic principles and certain mechanical skills. To help solve this problem, the Office of Education employed the motion picture, producing 457 subjects on basic

engineering, machine shop work, ship-building, welding, carpentry, care of machinery, supervisory problems, etc. Prints of these subjects are available for rental from film libraries throughout the country. The Office of Education production program has been discontinued, but prints of the pictures produced while the program was in operation may still be purchased. Lists and information may be had from the Office of Education, Washington.

Library of Congress

During World War II hundreds of films were produced by the Armed Forces for information and training purposes, and by various agencies reporting on war activities. With the return of peace came the problem of disposal of thousands of prints of such films that either had been superseded by later pictures or were no longer needed for the purposes for which they were made. Here was a full and complete pictorial record of our participation in the war from the home front, with its battle lines of farm and factory, through training camps and embarkation points, to the battle fronts on land, on the sea, and in the air, with no organization set up to keep it intact and make it available for the information of present and future generations.

Under the provisions of an Act of 1903, the Library of Congress accepted this responsibility and began to acquire this film footage as library material and to carry out the program as far as appropriations would permit. Available surplus prints were to be allocated to various film lending libraries. Plans also were under way to make possible the purchase of prints of films so acquired by the Library. However, as of July 1, 1947, the Congress had failed to appropriate the funds with which to carry on this project, and it was abandoned. Though the library began to acquire both non-theatrical and theatrical films, the latter could not be made available for general circulation because of copyright restrictions. It was

also establishing a clearing house of information on Government films to include the development of overall lists, catalogs, and bibliographies. Many responsible persons hope that Congress may see its way clear again to provide funds for these important activities.

Pan American Union

In line with its basic objective of creating understanding and cementing friendships among nations of the new world, the Pan American Union produces and uses motion pictures to show how our Latin American friends live and work and play. It is felt that, next to personal visits and close association, no better way than the showing of films has been found to accomplish that purpose. With them, the Pan American Union finds it possible to give the 3,000,000 people who see these pictures annually a comprehensive insight into the agriculture, industry, culture and life of the people in Latin American countries.

In 1937, the Division of Audio-Visual Education, with a Motion Picture Section, was created to handle the film activity. The production schedule now calls for a minimum of two pictures annually. The pictures are photographed and edited by staff members. Laboratory work and sounding are done at commercial or government facilities. In addition to its own productions, the Motion Picture Section is now handling through film libraries the distribution of 70 film titles produced during World War II for the Office of the Coordinator of Inter-American Affairs. In the past it has been the practice to deposit prints with film libraries for distribution. Beginning with 1947, however, free prints have not been available. They may be purchased at production cost by application direct to the Pan American Union, Washington.

Other Departments

Several agencies of other departments have produced and

are producing motion pictures from time to time as problems arise which motion pictures can help to solve.

The weather,its causes and consequences, are of interest to practically every enterprise as well as individual in the nation and the world—the navigator at sea, the farmer at harvest time, the builder, the picnicker, and you and I as we start for work in the morning. The expert forecasts the daily weather for us, but there is much we should know about it which the Weather Bureau of the Department of Commerce has told us in several motion pictures, available for loan from several of the state university film libraries and the Weather Bureau in Washington.

The Office of Small Business of the Commerce Department produced a 3-reel motion picture designed to help the small businessman to serve better the public and thus to improve his situation and help him to make his contribution to a better economy.

The National Housing Agency has produced a motion pictures on plumbing installations to demonstrate the need for standard plumbing codes based on adequate research.

The Treasury Department has used films effectively in its war bond drives and now has one bond drive film in circulation.

Following is a list of civilian federal agencies having motion pictures in circulation or production. The mailing addresses are Washington 25, D. C., unless otherwise indicated.

Agriculture, Department of
  Motion Picture Service, Office of Information
Commerce, Department of
  Weather Bureau
  Office of Small Business
Federal Security Agency
  Office of Education
  Social Security Administration
  Children's Bureau

Public Health Service, Washington 14 (Bethesda Station), D. C
Interior, Department of the
Bureau of Mines, Central Experiment Stations, 4800 Forbes St., Pittsburgh, Pa
Fish and Wildlife Service, Merchandise Mart, Chicago 54, Ill
Office of Indian Affairs, Haskell Institute, Lawrence, Kansas
Bureau of Reclamation
Justice, Department of
Bureau of Prisons, Vocational Education and Training
Maritime Commission, U. S.
National Housing Agency
Federal Public Housing Authority
Pan American Union
Visual Education Section, Washington 6, D. C.
State, Department of
Office of International Information and Cultural Affairs
Tennessee Valley Authority
Film Unit, New Sprankle Building, Knoxville, Tenn.
Treasury, Department of the
Savings Bonds Division, Motion Picture Section
U. S. Secret Service
Veterans Administration
Visual Aids Division, Public Relations Service

Other agencies have produced occasional films for in-service training, as reports on activities, or for other informational purposes. However, the Departments of State, Agriculture, Interior, Office of Education, and the Public Health Service appear to be the only agencies that have planned programs looking into the future for the utilization of motion pictures as a medium with which to help accomplish the tasks assigned to them by Congress.

Chapter XXV

FILMS IN THE ARMED SERVICES

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A chapter with this heading probably should begin with references to millions of miles of film and millions of dollars and millions of man-hours saved and other mathematical abstractions on the training film effort of the armed services. And a chapter written around the assumed significance of such numerical data should end undoubtedly with some kind of magnanimous statement to the effect that "films won the war."

Believing first of all that the size of the training film job for the war effort has been well publicized, and second, that the size of the job indicates little of value as far as education or the armed services are concerned, I shall refer to size only if it tends to make a statement genuinely more significant. For instance, if it could be said that a certain film had a certain effect in hundreds of situations, it probably would add validity to a point being made. The emphasis of this chapter, however, shall be on the implications of the training film effort of the armed services during World War II as they apply to the use of instructional films for public education and the armed services in the future and as they apply to the production of such films.

There would seem to be a rather large number of persons in the educational field, in the armed services, and in civilian life generally who believe that audio-visual instruction literally began with the "war effort." To many of these,

audio-visual instruction is a great new development which emerged suddenly and full-blown. And knowing nothing of the frustrations and hazards of this field, they see it as the answer to most of the problems of education and an easy way to riches. Obviously, these delusions are not true. Important pioneer work was done on visual instruction in education many years before World War II. Much enlightened thinking, writing, and testing was done even in the early 20's. Literally millions of dollars had been spent for the production and distribution of audio-visual materials, and for research to discover their effectiveness.

It must be admitted, however, that in spite of the millions of dollars that had been spent since films were first used in education there was little substantial knowledge available for establishing the patterns for production, distribution, and utilization of audio-visual materials to meet the demands of the armed services immediately preceding and following the attack on Pearl Harbor. Nor was there conclusive knowledge available on the effectiveness of audio-visual materials for meeting the very special training problems that were a natural result of the country's greatest mobilization of both civilian and military forces.

It is generally acknowledged that the intense training film activity as developed in the Army and Navy came about as a result of the enthusiasms of a relatively small number of men at work in military and civilian training and education; and, further, that these same men sold the importance of audio-visual materials largely on assumed effectiveness and their unassailable convictions that visual aids could accomplish literally anything.

Development of Military Programs

There had been some recognition in the armed services before the second World War that a powerful educative instrument was gaining prominence, and that it had important

military applications. In both the Army and Navy, the training film had its champions. Long before December 7, 1941, the awareness and enthusiasm of a few officers had established audio-visual techniques at least as factors for consideration in training men in the complicated aspects of military life and action. It was an army officer who wrote in time of peace:

> "In the Army, military activities are becoming more complex with the addition of new weapons, mechanization, new techniques and changing tactics. An officer in any one branch can scarcely hope to become highly proficient in all phases of his own branch, much less attain much of a working knowledge of other arms with which he must work in combat. Proper performance of his duties requires a higher degree of proficiency and knowledge of a wider variety of equipment than was the case fifteen years ago. The demands for time in which to study and at the same time carry on his regular duties, are very pressing.
>
> "Upon mobilization of a large army in time of an emergency, the pressure for time in which to train both officers and enlisted personnel will be tremendous. The difference between winning or losing a conflict may conceivably be dependent upon the rapidity with which the hastily mobilized force is trained and placed into action. If, as the result of the tests in civilian institutions and as our own training film use indicates, instructional motion pictures can be made to aid in shortening the training time of a hastily mobilized force, there should be no questions as to whether or not the Army should use this medium wherever it can be used effectively to gain a greater proficiency in a given period or in standardizing instruction in a given subject."

It appears that the Army was the first of the military services to see possibilities in the film. During World War I, contracts were let for training films to be made by commercial producers under Signal Corps supervision. The first Army training film, called *Close Order Drill,* was produced at West Point in 1916 at the request of the U. S. Military Academy. During the years following, at least a few men kept abreast and, at times, ahead of developments in the educational film field, and made efforts to expand the military vision on films. In the Army, these same men early and continuously attempted to get appropriations and support for experiments in training film production and use (including other specialized types of films).

The Signal Corps, as a result of intensive study of film techniques and film applications, saw Army films as falling into four distinct categories. In a memorandum written by Major M. E. Gillette, this is found under General Remarks:

> "Motion pictures produced by the Signal Corps should be classed as follows:
>
> A. *Historical pictures.* These should be factual showings of important events or activities in chronological or expository arrangement.
>
> B. *General interest pictures.* These are of the factual type, showing activities or events not of historical importance. These are of newsreel, sport, or travelogue type, edited in such a manner as to hold interest and give general information or any impressionistic view of a subject. They may be suitable for use with non-military audiences, as well as with military audiences. Little or no study or reflection is required of the audience. They instruct only in a general way.
>
> C. *Propaganda pictures.* These should be of the general interest type, "'slanted" with material to sway the audience towards a definite conclusion or reaction. These may be aimed at military or non-military au-

diences. Many times this class of picture may appear to vary but slightly from the general interest type, depending largely upon subtleness with which ideas are presented.

D. *Instructional films.* This class should be designed specifically for classroom use in presenting instructional matter. Such films require mental effort on the part of the class to secure an understanding of the subject."

The emphasis in Major Gillette's memorandum was on this last classification. It was pointed out that military training films could be divided according to subject matter in three groups:

1. *Technical.* Subjects explaining nomenclature and functions of equipment or illustrating the organization of units, etc.
2. *Technique.* The "how" type picture, illustrating how to use equipment or weapons or how to conduct one's action in performing an act.
3. *Tactical.* This type of "how" picture involves situations where results may be obtained by more than one method of application of group action.

The Army manifested a vitalized interest in the use of films following the adoption in the early 30's of regulations governing training film production and the designation of the Signal Corps as the agency charged with technical production matters. Under these regulations the various arms and services of the Army were to collaborate in determining training film subjects, scope, and content, and to supply necessary troops and facilities for the production of training films.

The Army's expanding training film activities brought about establishment of the Signal Corps Photographic Center at Astoria, Long Island, in 1942. The General Staff believed that a centralized film unit would insure uniform military

doctrine; that it would eliminate duplication of equipment, materials, and labor; and that it would utilize to the greatest degree available distribution, storage, and library facilities; that it would facilitate production of classified material; and finally, that the Army could save money by producing its own films.

At long last, as a result of the impetus given to the training program by the manpower demands of World War II, and the years of hard pioneer work in visual training traceable to a few men, the Army was to operate a major production facility. The Photographic Center at Astoria, Long Island, together with its West Coast unit, was destined to make significant contributions to audio-visual instruction by way of establishing new techniques and uses for films in all categories. And the Army had arrived at the point in the recognition of films where it could state officially that:

> "The purpose of films and film strips is to present military subjects in a vivid, interesting and accurate manner. They are designed as aids to teaching and learning. They supplement but do not supplant the work of instructors. By themselves films have only limited value; however, when used in accordance with sound principles of military instruction by a resourceful instructor they are invaluable.
>
> "On the other hand, improper use of films may endanger a training program. Soldiers can be expected to learn little from training films when they are marched into a hot classroom or recreation hall and forced to sit through the showing of a series of unrelated films for a prolonged period. This is especially true if they are given no indication of what they are to see, what they should look for or how these films are related to their present or future duties. Similarly, the materials presented in films will not be learned well unless the showing of films is

followed by examinations, discussions or other appropriate applicatory exercises."

The Navy, too, used some training films in the First World War. From fragmentary information that has been gathered they appear to have been on the subject of electricity. But the recorded history of training films in the Navy indicates that prior to 1941 little consistent study was given to speeding up the training process by using films. However, a few men in the Navy, too, recognized the potentialities of this educational tool and its increasing importance in civilian life.

Most vocal was Lt. Comdr. S. G. Kelly, USN, who as Navigating Officer aboard the *Northampton,* said in an article published in the U. S. Naval Institute Proceedings for April 1941, " . . . in one all important field, that of personnel training, we seem to be overlooking a most valuable aid—the use of motion pictures." Lt. Comdr. Kelly stated that motion pictures could be of value in training for every activity of the Navy. He went so far as to suggest subjects for which audio-visual teaching aids could be used, *e.g.,* navigation, piloting, naval engineering, gunnery and tactics, recruitment and indoctrination, tactical fleet problems, and others. He predicted that a national emergency would "put into immediate service large numbers of new personnel and that the training film would repay its cost a thousand-fold."

In addition to Lt. Comdr. Kelly, Captain Byron McCandless, Commanding Officer of the Destroyer Base, San Diego, also emphasized the need for training films. Captain McCandless, a long-time audio-visual enthusiast in charge of training thousands of enlisted men in the Pacific Fleet schools, stated that the only way to sear information into the minds of the young recruits was through the use of visual methods when training them. He said further that training must give the recruits clear, concise information on what they are to do, and that ordinary methods of instruction do not accomplish this. Captain McCandless said, "I know from experience the only

way you can teach these kids so the stuff sticks is to use visual methods in our training schools."

In July 1941, a Photographic Board was convened to survey Navy photographic requirements and facilities. Although the Board was concerned largely with general photographic problems its report included, among other things, recommendations for expansion of facilities and personnel to meet photographic requirements in regard to education and training. The recommendations of the Photographic Board in their entirety resulted in a directive from Secretary Frank Knox to all Naval and Marine activities. This directive stated that pending the completion of the Photographic Science Laboratory at Anacostia, D. C., the complete photographic requirements as recommended could not be met, but that the Bureau of Aeronautics was prepared to provide motion pictures and slide films for the expanded training program of the service. The directive said:

> "Chiefs of bureaus will determine the need for visual aids within their jurisdiction from recommendations submitted by the various activities under their cognizance. These recommendations should contain a detailed outline setting forth the scope of the work, the purpose for which it is intended, and other pertinent information including specific information on the following points:
>
> 1. Type of audio-visual material desired, such as motion pictures or slidefilms.
> 2. Primary purpose for which material is desired, such as general information, specific instruction, or morale building.
> 3. Educational purpose of the material, such as: developing skill in a particular lathe operation, or general information on the duties of a quartermaster.

4. Experience and background of personnel to whom the material will be shown.
5. Whether film is to be used alone, or whether it will be used in conjunction with lecturers or textbooks."

The question was raised, in the Navy and outside, as to why the Bureau of Aeronautics was given the responsibility for the production of training films. The reasons were simple from the Navy's point of view. As originally conceived, photography in the Navy played its most important role in aerial reconnaissance. Military photography developed with aviation, and the making of training films and other motion pictures was considered a photographic problem. The Bureau of Aeronautics, like the Signal Corps in the Army, having had the most experience in photography was given the training film and motion picture responsibilities. The result was that even in the naval establishment it was necessary to reiterate frequently that the training film and motion picture work of the Bureau of Aeronautics was not limited to the problems of that bureau.

In August 1941, two men formed the nucleus which was to "meet the photographic requirements of the naval service . . . for education and training." During the following months, after the directive issued by Secretary Knox had reached the field, requests from the various training divisions poured in and forced expansion of the staff with writers, educators, project supervisors, administrators, and film personnel.

Several reorganizations of the Navy's original training film unit were necessary to meet the problems brought about by an overwhelming workload. From the beginning, requests for training film production were studied and sifted in the three offices with specialized training functions—The Office of the Secretary, The Bureau of Naval Personnel, and The Bureau of Aeronautics.

One of the activities that stimulated the production and

use of training films in the Navy was an audio-visual survey by educational specialists made over a ten-week period during the summer of 1942. This survey caused a directive to be written from the Chief of Naval Personnel to Training Activities throughout the service. The directive gave the findings of the survey and stated that "in general, wherever they have been used in the naval establishment during the past year, motion pictures and film strips have been conspicuously effective in expediting the training of officers and men," and "at present only one-third as much use is being made of motion pictures and film strips as can be made. In accordance with a recommendation resulting from the above findings, the Bureau of Naval Personnel requests that all personnel concerned with training give serious, detailed study to their various curricula in order that they may devise ways and means to employ visual media to the maximum extent."

Wartime Problems

Stimulating the production and use of visual media, especially films, for training either in the Army or the Navy became less necessary as the distribution and availability of prints increased. As more films were seen in the field more possible applications and uses were discovered and more requests arrived at headquarters for production. A point was reached at which all the production facilities of the armed services and civilian establishments across the country were being used to capacity. Serious bottle-necks in some types of work developed. Animation and recording studios and laboratories became loaded to the breaking point. An alarming shortage of competent cutters and editors was experienced. The most repeated criticism of activities responsible for the production of training films and prints was that "it takes too long." It was frankly admitted that in consideration of urgent military needs the criticism was justified, but in consideration

of the capacities of personnel and existing facilities, the criticism made little sense.

The Army from the beginning had assumed that it could get greater training film volume, better quality, and work that more directly fitted its requirements from its own controlled facilities. As a consequence, most of the Army's films were made by Army personnel in their own studios. The Navy, on the other hand, had assumed that it could accomplish similar objectives by having most of the work done on contract. However, both the Army and the Navy found it necessary to resort to opposite methods for some films. The Army had considerable training film work done on contract, and the Navy did a large share of its most important work in its Photographic Science Laboratory at Anacostia, and its photographic facility in Hollywood.

It would be possible to discuss at great length the film production, distribution, and utilization methods of the Army and Navy and to compare their efficiency in terms of time required for the various aspects, costs, and originality and effectiveness of production. Without a detailed study, which has not been made, probably no completely accurate conclusions can be drawn. It is acknowledged generally though that regardless of similarities or differences in methods of operation, the armed services—Army, Army Air Force, Navy, Marine Corps, Coast Guard—all, made records that will stand. Their patterns of operation, their standards and criteria, and their personnel and facilities had to be developed rapidly to meet highly specialized needs of a pressing and varied nature and under conditions never before experienced. The training needs out of which the training film programs emerged, and which they were organized to meet, were greater in number, more complex, and more urgent than any that had been encountered in the history of the country.

The exigencies of a war for which the nation was little prepared made necessary the mobilization of special skills for

training men on a scale unprecedented. Persons with experience in education as teachers, supervisors and administrators and experience in the many areas of film work and the graphic arts were taken quickly into the armed services or they worked as civilians on the organization and development of training programs and training techniques.

At no time in the training programs of the armed services was there sufficient personnel to carry out the work as rapidly as the demands required. There were continuing shortages of artists, writers, cutters, editors, photographers, and audio-visual aids utilization personnel. Out of urgent necessity many persons with no previous experience in these skills were developed into skilled and useful individuals. Others with limited skill and little previous experience were also developed into effective persons for specialized work. Training of personnel was done on the job. Insufficient experienced personnel and lack of tested patterns for training film production, distribution, and use, and the continuous exertion for more speed inevitably resulted in some costly, delayed, and even obsolete work.

More serious, however, was the effect of these conditions on the actual technical and educational quality of films and the effectiveness with which they were used. Adequate time and budgets for conclusive research on production techniques and methods of utilization were not available even though urged by a few men who recognized the importance of proved and reliable data on which to proceed. It would be untrue to say that no substantial enlightening results or conclusions have been reached and reported on the training film experience of the armed services during World War II. The Army and Navy and their branches have in their files completed researches of unquestionable value for guiding both future military and educational activities. There is in fact a gold mine of information and evidence to be sifted and organized out of the military experience which would contribute in tangible ways to

moving audio-visual instruction even now out of the new doldrums it has reached. It is fortunate that we have in print and available at least the worthy if incomplete reports of Hoban[1] and the American Council on Education.[2]

Recognizing that a chapter of this kind can do no more than to indicate a few things known and unknown about such a vast undertaking and experience as the training film job of the armed services during the most demanding and devastating war in history, I shall attempt a few generalizations that may have substance worthy of recording.

Implications for the Armed Services

As far as the armed services are concerned:

1. *Films for skill training, indoctrination, orientation, attitude building, and other uses proved to be of great value when adapting large numbers of personnel to the special conditions and requirements of life in the military services.* There is sufficient evidence in Army and Navy records to prove the worth of films in the war effort. Among other things the evidence shows that military personnel learned more in less time about a given subject from training films than they did from the use of regular instructional methods; they remembered longer what they learned; their interest in the subject matter was increased; films made training more uniform; and films built morale and provided orientation.

2. *Research and planning is necessary to insure more rapid production of films to meet military needs.* It is undeniable that films often were too long in production to meet urgent military needs at the "right" time. In many instances the actual production of films did not take too long. Their lateness was due to the fact that the need which the film was to meet was in an advance stage before it was determined that a film would contribute to solving the problem. Factors

[1] Hoban, Charles F., Jr. *Movies That Teach.* Dryden Press, New York.
[2] American Council on Education. *Audio-Visual Aids in the Armed Services.*

that added most to the length of time required for the production of films were the initial lack of clearly defined objectives for films; lack of accepted doctrine which would determine the presentation of methods, processes, and techniques; obsolescence of doctrine officially accepted and recorded; no doctrine at all; lack of personnel capable of doing methodical research which would contribute directly to script construction; inability to get approvals by ranking experienced officers or groups for the various stages of production, *i.e.,* research, scripts, rough cuts; overlapping demands on available production personnel and facilities as a result of inadequate priority controls; and non-availability of training units and equipment to be photographed. This is only a partial list of factors that kept needed films too long in production. But it is sufficiently long to point out irrefutably that in consideration of both normal and emergency training film requirements of the armed services, these and other factors must be given serious study.

3. *Methods within the military framework for sifting film requests, planning film production, producing and distributing films and film utilization must be studied for purposes of achieving speed, effectiveness, and most efficient and economical use of personnel and facilities.*

4. *Research is necessary to discover new film uses and more effective utilization methods.* There is evidence that films in the new areas explored by the armed services, not before touched to any extent in education, made their marks in achieving their objectives. The notable new uses were films for orientation and films for skill training. Whereas films in education had been used largely to supplement teaching, there were many instances in the armed services in which films carried the major part of the teaching load, and other methods of instruction were used as supplementary. In numerous situations, a single motion picture without introductory or summarizing remarks by an instructor or any other person served

to give more than sufficient information on a skill, a problem, or a condition to justify its use in this way. A typical example of this kind of use is that which took place with a series of Navy films on a new bomb. The bomb was developed so rapidly and with such secrecy as to make the training of an adequate number of special instructors for duty in the fleet impossible. The answer to the problem of instruction in the use, care, and handling of the bomb was a series of films produced almost simultaneously with the production and testing of the bomb. This series of films was delivered to the fleet with the first shipments of bombs, and acted as the first important instructional device. The films were seen immediately aboard ship and the bombs were handled according to the pictured and described methods. Quite naturally, they were concerned largely with manual skills. However, the films put great emphasis on the delicacy of the bomb mechanism, the dangers of careless handling, and other conditions which effected positively the men's attitude toward the tasks covered and gave them great respect for the bomb's potency.

An example of a different kind of film used as a self-sufficient informational and instructional experience is a film made by the Army Air Forces called *Land and Live in the Arctic* officially annotated as follows: "A squadron of fighter planes takes off for flight over arctic territory, and one of the pilots is forced down by engine trouble. The pilot, remembering and following instructions of the briefing officer, survives and is rescued. The film shows selection of the proper landing spot, use of the parachute for extra clothing and shelter, how pieces of the airplane can be used, how to improvise shelter, how to obtain food and firewood, and how the pilot aids the searching aircraft to locate him. Emphasis is on measures that the pilot must take for bodily protection against snow and sub-zero temperature."

A large number of films of this general type were made by all of the services. Films fitting this category were borrow-

ed from training film libraries aboard ships and in naval and military establishments and studied by one or more men, frequently without any kind of additional instruction. The consensus of personnel who saw such films is that they were effective in accomplishing the objectives established for them. These are spontaneous letters in the files of the Army and Navy in which men of many ranks and ratings clearly appraise and gratefully give credit to such films for having saved their lives.

It is admitted that the motivation factor, recognition that specific knowledge often contributed directly to chances for survival, frequently played a large part in the desire to see training films and also their effectiveness. The fact is known that motivation of this type was supplied often times by other films of a documentary and reporting character. Films on military action and combat had their effect in building desires to see and learn from films which related to a given individual's part in a job to be undertaken. In other times and under other circumstances, obviously, other motivations must be sought out and used.

These experiences indicate that significant success in the potentially dynamic future of the film depends on thorough exploration of its subtle inherent values and their extensive ramifications and applications. Continuous reiteration of loose conclusions drawn repeatedly over the last twenty-five years will achieve nothing. The study of film utilization, utilization that goes beyond the ridiculously simple "prepare the class, show the film, summarize" formula is of the greatest importance. There were in the armed services during World War II many uses of films and methods of film use which were literally new. These if analyzed and made available will establish targets and standards for guiding military and educational film forces throughout the decade. It is safe to prophesy that even these targets and standards inevitably will be difficult to

reach with the usual lack of funds, personnel and universal compulsion that exists under so-called normal conditions.

5. *The problems of training personnel with no or only limited experience in teaching with visual materials must be studied in order to meet the overwhelming demands of military training brought about by mobilization.*

The problem of teaching teachers in modern methods is one of the most difficult and important at any time. Under conditions of mobilization it is unbelievably more difficult. Even when personnel with past teaching experience are available, the demands for speed and effectiveness in the military pattern require additional concentrated training. Too often films and other audio-visual tools were made available to persons given responsibilities as instructors with no adequate information or provisions for utilization to meet special needs. Even more serious was the fact that persons assigned as instructors too often had insufficient military indoctrination and orientation to give them the knowledge and confidence necessary for effective teaching whether with or without films and other visual aids. As indicated, although many films were produced that were complete experiences not actually requiring "instruction" as such, the great bulk of films required thorough preparation of students, knowledge of the students' readiness for saturated film experiences, and precise integration in the teaching program to achieve optimum effectiveness. The conclusion must be that there is much work to be done on the problem of teaching teachers in the use of films if the accepted possibilities of audio-visual techniques for instruction are to be achieved in the armed services or education.

The above generalization indicate a number of areas in which the armed services could do serious study profitably. It would seem advantageous to determine the following:

1. How effective training films were in terms of their original objectives.

2. What learnings or effects training films had that were

beyond or extra to the purposes for which they were requested originally.

3. How training films were used to achieve their original objectives.

4. The nature of instructional or other problems which determined the need for training films.

5. The extent to which training films met specific needs —skill, orientation, attitude building, etc.

6. How the backgrounds (educational, experiential) of instructors effected the methods and effectiveness of training film utilization.

7. The suitability of the film medium for meeting instructional or other needs as originally determined.

8. The nature of the problems of production research, initiation, and supervision that influenced the auditory and visual character and quality of training films.

9. The importance of the time factor in training film production and distribution and its relationship to meeting original instructional or other needs.

10. The effect of security restrictions on the production and distribution of training films.

11. The effect of security restrictions on the actual development and interpretation of subject matter in films.

12. The effect of non-availability of military personnel for establishing doctrine on problems of a tactical, operational, or other nature.

13. The effect of non-availability of weapons ranging from ships and aircraft to tanks and guns on the production of training films.

14. The effect of non-availability of experienced personnel for manning or operating equipment required for the production of training films.

15. The effect of delayed information and the lack of doctrine on new weapons, techniques, and other subjects, on the obsolescence of training films.

16. The effect of excessive workloads of supervisory personnel on the technical quality of training films and the length of time they were in production.

17. How physical and mechanical conditions and equipment (acoustics, darkening, ventilation, projection apparatus, screens, etc.) in which and with which training films were shown influenced their effectiveness.

Implications for Education

As far as education is concerned:

1. *Film utilization experience of the armed services proved conclusively that films can serve a wider variety of needs than those for which they were used in education prior to World War II.* Film use in education before the war was limited largely to simple instructional problems or to extremely broad information and background problems. Schools at all levels had used films for instruction in most subject-matter areas. Films on processes, community services, peoples of the world, and natural phenomena were not unusual, nor were films on industrial subjects or aspects of business and industry. However, the types of straightforward comprehensive skill films used by the armed services had had little, if any, use in education. And films for orientation and attitude building like the Army's films in the "Why We Fight" series had few, if any, counterparts in the educational field. Attitude building, emotional and psychological conditioning are terms which were rarely applied to films made for school use.

Despite accomplishments of the armed services with films in these new areas and their widely heralded recognition during the war, there are indications that producers of educational films and educational leaders themselves are slow to move away from the formalized traditional prewar patterns. There is little evidence at this point, two years after the end of the war, that the military and naval experience is being used to

advantage by educational film producers, who would say that they are doing what is wanted by film users—the educators.

There may be justification for the timidity of both producers and educators to venture into areas that have been only cursorily explored in education. Films for orientation in the social scene of the Capra type (*The Nazis Strike, Battle of Britain, Battle of China, Battle of Russia,* etc.) take more time and cost more money to produce. In addition, they require some courage for presenting a "'point of view." There can be little doubt that films of this type require more enlightened and careful production and utilization than films picturing simple instructional problems and routine daily life experiences.

Unquestionably, careful consideration must be given to determining the nature and extent of attitude building that is permissible in the framework of a public education program. And it is acknowledged that much more than courage certainly is required to expand the scope of film use in schools. Increased budgets should do much to encourage the production of films which explore new problems and demand new applications. It can be hoped that the immediate post-war surge in interest in the field of audio-visual education will not be lost altogether and that some of the ardent enthusiasm will remain for the creation and use of films of a truly imaginative and original character.

2. *Education has in its ranks today many men and women who began or extended their experience with films in the war effort in civilian and military activities.*

There is little doubt that those persons who took part in the production, distribution, and use of films during the war, and who have returned to or entered educational pursuits, have an enthusiasm for films which if allowed expression and given support can not do other than benefit education at all levels. Although these individuals are the first to admit that there is much to learn about the values of films and methods of utilization, they will testify almost universally, regardless

of the area in which they got their experience, that films accomplished significant results in the war effort in terms of learning and that they made the experiencing of a strange new kind of life and behavior more interesting and palatable. Many will say that, what is more important, films gave them a confidence born in sensory orientation and indoctrination of a realness and intensity not possible with other instructional methods.

It seems patent that education could profit greatly and for a long time from a comprehensive study of the armed forces' training film program to learn the following:

1. The special uses of films regardless of their known or assumed effectiveness, that is, the use of films for skill training, orientation, indoctrination. attitude building, instruction, information, etc.

2. The methods of utilizing films for their various special purposes.

3. The effectiveness of films in achieving the special objectives for which they were made.

4. The influence of the training and experience of instructors using films on the effectiveness of films in terms of original objectives.

5. The types of learning and effects that were beyond or extra to those originally intended (concomitant learnings).

6. The types of instructional or other problems for which visual and audio-visual techniques were most effective and were least effective.

7. The influence of the physical and mechanical conditions (acoustics, darkening, ventilation, projection apparatus, screens, etc.) in which and with which films were shown on their effectiveness.

8. The degree to which motivation influences the effectiveness of films for special purposes.

Further Study Needed

In concluding this chapter, perhaps there is one point which will benefit by re-statement and further emphasis. It is the fact that the experience in the production and utilization of audio-visual materials for instruction, specifically films, in the armed forces during World War II was of greater importance and more conclusive than any report so far written has indicated except in the most general terms. This many-faceted, extensive film construction and use experience holds in its records original and exciting evidence and source material which if set forth in understandable terms—terms neither military nor academic— will serve to lead the way for education for many years to come. A proving ground for audio-visual instruction like that supplied by the war effort, which cost at least a hundred million dollars and which caused to be created more films and film uses than any other in history, should not be relegated to the dead past without exhaustive probing and analysis. There is now no reason to continue to "start from scratch" to learn what films will do and how they can take up the disturbing lags between education and society.

No, films did not win the war, but there are literally millions of men who through the vicarious experience of films became more skilled, better orientated and adjusted, and consequently more effective individuals. And not to be taken lightly is the fact that there are men alive today who by their own admission would not be alive if it had not been for something they learned from a film or films. It must follow that films will speed and vitalize public education if applied to educational functions and objectives with an open mind and an understanding of the unique attributes of the film which attract, bridge gaps, and give experience not inherent in any other tool now available for mass education.

CHAPTER XXVI

EDUCATION FROM THE THEATRICAL SCREEN

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The history of the entertainment screen tells a story of social contribution, but not always in terms of education as we generally understand that word.

It has been reliably reported that in the middle 90's less than five per cent of the population of the United States had any opportunity to enjoy professional entertainment in any form. This small percentage includes not only theatrical entertainment, but professional baseball, racing, opera, the circus, and other forms of amusement as well. The typical citizen had earnings far too small to pay the admission costs that were even then current.

The first entertainment motion pictures were short, simple, and inexpensive. Most of them were comedies, which attracted the masses of the people into nickelodeons, but did not attract established artists of the legitimate theater. Dreamers, like Adolph Zukor, who believed that more and longer pictures in higher art form could be successful, were given skeptical hearing by those who were turning out "flickers" in poorly equipped studios.

Yet these silent entertainment pictures provided recreation and relaxation to an amusement-hungry population, not only in this country but throughout the world. The business

expanded rapidly and substantially and the financial resources which accumulated out of a ready market prepared the way for newer and greater things.

The introduction of sound to film in the late 20's opened up new vistas of entertainment. This made it possible for the vast audiences not only to see pantomime, but along with it to hear the words of well-written stories and even of literary masterpieces. This made it possible for the lines of Shakespeare to be heard all over America, and to acquaint the general populace with the works of Hugo, Thackeray, Dickens, and Tolstoy.

Such a development required the services of established theatrical artists. The Barrymore's the Arliss's, the Katherine Cornell's, and the Stokowski's could find and did find the motion picture a vehicle of expression which attracted them far more than did the motion picture in the days when it was merely a pantomime art.

At first, some of the prestige pictures, which were produced with stars from the legitimate theater and based on classics of the dramatic art, failed to intrigue some of the audiences which were used to custard-pie comedies; but, as the years went on, the general public found that *David Copperfield* is a story of gripping suspense, and that *If I Were King* contains romance and adventure well suited to the entertainment screen.

Although these films were produced largely, if not solely, for their high entertainment appeal, they carry with them significant overtones of education. Millions of people around the world who had thought of some of our best literature as being dull and stodgy and condemned it with the generalization of being "high-brow," began to get acquainted with characters and scenes and quotations previously familiar only to the cultured. Snatches of classical music were whistled in the workshop and office by those who had been to the movies the night before. New treasures of story and melody were dis-

covered by people who had not known such things existed. Biographies of great leaders introduced the public to many of the great men and women who have been responsible for phases of our social progress. This has all been a source of intellectual development and some degree of social inspiration.

Related Cultural Results From Outstanding Photoplays

While the motion picture has been making this direct contribution there has also been an indirect cultural result. Strangely enough, the release of motion pictures has stimulated the reading of the books from which the pictures have been adapted. The Chicago Public Library reports that for the first time in its history, there is a waiting list on *Henry V*. This same library reports that it has now only the tattered remnants of their out-of-print biographies of Chopin and George Sand as a result of *A Song to Remember*. This has been going on for some time. As far back as *David Copperfield,* libraries all over the country reported the purchase of additional copies to meet the demand for this Dickens' book which had rested on their shelves unread for years. Publishers of the Bronté books reported a public interest following *Wuthering Heights* which exceeds the interest of any other generation. When the film *Romeo and Juliet* was released, one librarian reported the first request in the history of the library for the withdrawal of that book, and before the first day was over she had a waiting list on that single copy. The story is the same with every picture of this type that has been made. Frequently publishers have to get out reprint editions to meet public demand. The stimulus to the reading of good books is one of the attendents upon the production of good pictures.

What is true of books is likewise true of good music. After Josè Iturbi played Chopin's "Polonnaise" in *A Song to Remember,* his recording sold more than a million copies in six months. Prior to that, fewer than 2,000 records of this classic had been sold annually. After Rubenstein played

Rachmaninov's "Concerto No. 2" in *I've Always Loved You,* a new recording in a few weeks sold four times the number of records as Rachmaninov's own masterful rendition had sold in fifteen years. These are merely illustrations that could be numerously duplicated. "Lucia di Lammemour," "Carmen," "La Traviata" and "Madame Butterfly" have been enjoyed by millions. So have Tschaikowsky's "Fifth Symphony" and Liszt's "Hungarian Rhapsody." And not only enjoyed in the movies, but enjoyed in the homes of the masses who are now buying 75,000,000 recordings of higher priced serious music annually, as compared with only 65,000,000 records a year of all types sold in 1929.

Results like these can be tabulated. Furthermore, it is fair to assume that new cultural levels are being reached by the people in areas which are more difficult to measure. Never were concerts and recitals as popular as now. Nelson Eddy, Iturbi, Heifetz, Melchior, and Lily Pons are playing and singing to multitudes in their many personal appearances. And these multitudes are not the traditional cultural aristocracy of our country, but a new aristocracy of culture which has developed from every walk of life.

New standards of dress, of interior decorating, of homemaking, have raised the levels of enjoyable living. It is difficult to say how much, or what other factors are effective and to what extent, but the motion picture has had an important and significant effect as a major cultural influence in our national life.

The Development of the Short Subject

Entertainment motion pictures began with short subjects. As years passed, these were made longer and longer until our commonly known feature picture has dominated the entertainment screen.

Short subjects for a while were a minor part of any program and were devoted chiefly to slapstick comedy. In recent

years, however, the one and two-reel short subject has been coming back into prominence, and has become deserving of serious consideration. Several of the producing companies arranged with world travellers for the making of travelogues which interpret countries and peoples of the whole world. Fitzpatrick Travelogues, The Magic Carpet Series and others are well know to regular theater attendants. Historical short subjects, such as the technicolor series by Warner Bros., have interpreted for the theater-goers of today some of the basic concepts on which our nation was founded. Distinguished biographical short subjects have been made by MGM on such important world personages as Louis Pasteur, Alfred Nobel, George Washington Carver, and a host of others. Highway, household, and industrial safety films of extraordinary merit have been made in short subject form to accompany important photoplays.

This development has brought to the screen an important element of mass education. So important in fact that during World War II, the industry and Government cooperated in an extensive short subject program to inform the masses about World War conditions and to stimulate cooperation.

Education Takes Notice of the Movies

Soon it became apparent to some educators that the motion picture was more than merely an amusement device—that it was becoming one of the art forms; and, in addition, a medium of educational communication.

One of the first steps was a movement on the part of teachers of English to organize classes in photoplay appreciation. Many of these were extracurricular activities, but in some instances they were made a part of curriculum of English literature. In these courses, standards of motion pictures as well were discussed. Materials were provided and used which described the work of various of the artists, scientists, and

technicians of motion picture production. A few books were written. The work of various directors was characterized Standards of entertainment selection were discussed; in some cities, juvenile preview groups were organized and promotion of outstanding photoplays resulted. At one time, nearly ten thousand such photoplay appreciation groups were meeting regularly in high schools throughout the country. The result was an increased market for prestige pictures and these were more frequently produced; not only were standards of public appreciation raised, but the number of productions increased in which significant by-products of culture and education were present.

The Entertainment Motion Picture in Schools

Up to this point, most of the educational activities required that students see the motion pictures in the theater. Teachers were aware that much educational content was included in the entertainment movie, but such classroom use as was made of this must be done by remote application. Frequently, only part of the students had seen the pictures under classroom discussion.

Prior to 1936, many teachers and school administrators unsuccessfully requested the release of theatrical pictures for classroom use. In that year, however, the Motion Picture Association asked a committee, under the chairmanship of Dr. Mark A. May, of Yale University, to explore this whole matter and to recommend to the industry a policy which would be of service to education.

After organizing several groups of classroom teachers, who previewed hundreds of films, this advisory committee recommended a list of short-subjects which should be distributed to schools on 16mm film for instructional use. The producing companies accepted the recommendations of the committee and permitted the incorporation of Teaching Film

Custodians on a non-profit basis to extend this service of the industry to the schools of the country.

There were many educational problems involved in this distribution. Obviously, the films were not made for classroom use and consequently, were not deliberately directed toward classroom objectives. Some subjects, like travelogues, would contain footage useful to the teaching of the subject, but would also contain other footage in the same film which would make no new contribution to the class. Occasionally, the narration was aimed to interest an entertainment audience rather than to instruct a classroom group.

The teachers who made selections of these films for classroom purposes were required to exercise great care in recommending the use of only such subjects as would avoid these difficulties. On the other hand, it was found that these theatrical subjects contained a commendable factor of interest; that they were easily understandable since they were planned for mass showing; that they contained only as much by way of new facts as could be absorbed readily.

The inauguration of this distribution program was received with mixed reactions both on the part of the industry and by educators. Strict limitations were placed on the use of these subjects, restricting them to the instructional programs of schools. This was to prevent their entering into the entertainment market in competition with neighborhood theaters. In spite of these safeguards, many industry leaders were apprehensive that the project might get out of hand and create unsatisfactory trade conditions within the industry.

Many school people weren't sure that the Hollywood studios could offer anything to the classroom, even with their most serious product. They were skeptical about the instructional value of such materials. Some openly opposed the development of this project. After eight years, it is interesting to look back upon the successive steps by which this educational interest has become a part of industry thinking, and the mo-

tion picture interest has become a part of educators' planning.

From the industry standpoint, the anticipated difficulties never materialized. On the contrary, the use of these pictures in schoolrooms has opened up new areas of interest, and the same privileges of availability, which were so narrowly conserved in the beginning, have now been extended by the producing companies to include the programs of any organization whose objectives are educational in purpose and intent. The industry has, on three occasions, appropriated funds to finance research and experimentation which would advance the educational use of the motion picture. Currently, they have established an industry committee to plan the additional educational services which the industry can provide.

On the part of education, the developments have been similarly significant. In all, about six hundred theatrical subjects have been offered to schools at one time or another. Only about a third of these have proven a well-established usefulness. Schools draw upon the other two-thirds as a unique source from which they can find materials for specialized use. In some instances, this is because such materials cannot be found elsewhere. The more than two hundred subjects that have found their effective way into schools have become largely a regular part of the teaching materials for classroom work in thousands of schools throughout the country. For the most part, these subjects are not in competition with films from other sources because they are the type of subject which are too expensive to be made by the producers of educational films. They include dramatizations of historical scenes; films on how people live in other countries—shot all over the world by ever-present crews of newsreel cameramen; under-sea pictures made with expensive equipment; and dramatizations of literary novels and plays.

The educational market is believed to be unable to finance such costly productions. These theatrical productions earn back their negative cost through theater admissions, and their use

in education is just an added social dividend from which the producer gets no revenue. The usefulness of these materials has become so well established in some areas of teaching that other educational groups are asking if they, too, may tap the reservoirs of film which have completed their theatrical use. Social studies teachers, music supervisors, adult education groups, and others are asking if they, too, may not have appropriate segments of film excerpted from feature pictures in order to serve their instructional needs. It is remarkable that the industry now welcomes these requests in the interest of making the motion picture not only useful as entertainment for profit, but useful also as education for service.

One of the weaknesses inherent of this supply of entertainment films is the lack of printed materials to guide the teachers in their integration of these films into the courses of study. The industry has looked upon itself as being a soure of film materials, but not as an agency of educational guidance. This places upon the individual teacher, or in some instance, the school system, the responsibility for this correlation work. This is a burdensome task to be met locally, and the present need is for some centralized agency to proceed with an integration project either with or without industry support.

The development of interest within the industry points to further activity in the visual education field. Let's examine the possibilities and speculate upon the developments of the future.

Already the owners of outstanding feature pictures based on literary classics have given permission for the excerpting of materials to be used in classes of English. Several classroom versions by this excerpting process have already been made. Similar materials have been provided in the field of human relations. Others are being prepared for use in the teaching of world history.

This editing, however, does not permit inclusion of footage from more than one feature in the same classroom subject. It frequently happens than an entertainment picture does

only a partial job, particularly in the field of the social studies. If the footage which does the partial job could be combined with footage from some other picture which does some more of the job, or with footage from several pictures, each of which makes a contribution to the total instructional problem, some excellent teaching materials might be expected to develope.

For example, the catalogue of Teaching Film Custodians, which distributes entertainment subjects to schools, lists eight films on China. No one of these films interprets the Chinese people competently; yet, in each of the eight there is excellent footage on some phase of Chinese life. By excerpting the valuable parts of each of these eight films and combining them into a single subject, the result would provide an excellent presentation of China. These films come from various companies and permissions from the industry to perform this type of "scissoring" and group operations on several films would bring into classroom use some materials of greater excellence than the industry is now providing.

Another useful development would be a procedure by which sequences from feature pictures might also be combined around a single theme. If this were done with the same excellence of workmanship, as went into the original productions, the result would be a great credit to the industry and an inestimable service to teachers.

Problems of contract and competition currently delay such developments as these. Perhaps a first step would be in combining footage from pictures made within the same companies, as has already been done by Warner Bros. in their technicolor subject, "March On, America."

This brings us to the individual company interest which is being displayed, as is evidenced by the following developments:

1. Loew's International has developed a department of educational pictures, which has announced a program to

distribute 16mm. prints of selected short-subjects to schools throughout the world, except in the United States and Canada. This company is the foreign distribution affiliate of Loew's, Incorporated, which owns and distributes pictures produced by Metro-Goldwyn-Mayer.

2. RKO Radio Pictures, Inc. and Paramount Pictures, Inc. have organized subsidiaries or affiliates for a similar type of activity. Similar programs by these companies will ultimately be in operation.
3. Universal Pictures Company, Inc. has established a wholly owned subsidiary, United World Pictures, Inc., which by an international agreement with the J. Arthur Rank organization in England, contemplates the production and world-wide distribution of films made specifically for the classroom. Arrangements are in process for the production of eighty-six films in the field of geography for the fourth, fifth and sixth, and high school grades. This is in addition to the educational distribution of selected films from the regular theatrical product of Universal Pictures.
4. Twentieth Century-Fox Film Corporation, Columbia Pictures Corporation, and Warner Bros. Pictures, Inc., have not yet announced the plans for participation in the educational field, but each of these is studying the situation with a view to possible production or distribution to schools either directly or through commercial contract with 16mm. distributors.

These developments may result in bringing to the educational market many new materials either edited from existing theatrical footage or produced specifically for school use.

The purpose of this chapter is to discuss only those materials that have come to education from the theatrical screen.

There are two serious questions which should be answered with reference to the interest of the entertainment industry in education: (1) What types of films does it consider

to be educational? and (2) What is the philosophy behind these efforts?

In answering the first question, it should be remembered that no entertainment picture is made for its educational value. The sole criterion is "Is it box-office?" That is a very proper attitude since the business of the entertainment industry is to provide entertainment for profit. In doing so, however, many producers recognize the prestige value in outstanding photoplays and short subjects and many times it happens that pictures of prestige value do contain the cultural by-products in which education is interested. The attitude of the industry has been that, insofar as entertainment films are made available to schools, the selection is not to be made by the industry, but by the school people. Therefore, the answer to the first question is that the types of films which the entertainment producers consider to be educational are the films which educators have selected for their educational usefulness. This has been a consistent attitude and will probably continue. This will mean, for example, that if and when any of the entertainment producers enter the educational production field, their activities will be guided and controlled by educational leaders who have clear concepts of educational objectives and problems.

In answering the second question, "What is the philosophy behind these efforts?", it must be remembered that the makers of entertainment pictures are not controlled by a single mind. The industry is made up of many persons of authority and responsibility. The motives of these persons are not uniform. Perhaps within a single person, there are mixed motives, just as in every other field of activity. Of the many motivations that may be entering into the controlling philosohpy, three may be said to stand out prominently:

1. The men who are in positions of controlling influence are not unlike other men. Although they drive hard at their business, they contribute to charities; they support pa-

triotic efforts; they have altruistic impulses which they follow; they are men of family; they read and think about social values; they desire to participate on improvements which improve the world.

When it has been presented to them by educators that they have lying idle in the companies' vaults films which could make an additional contribution to education, they have responded sympathetically and willingly to proposals which would not jeopardize their business relationships. They have even voted to contribute their companies' funds to implement the additional contribution which these idle films might make. When their decisions to cooperate with education have resulted fruitfully, they receive satisfaction from this cooperation and are, thereby, encouraged to proceed further. They are the same men who desired to contribute millions of dollars worth of 16mm film for the entertainment of overseas troups, to provide millions of feet of raw stock for the re-education of the peoples of war-torn Europe, to join with theater owners in raising millions of dollars for the Red Cross and for war charities. They respond to appeal from many sources, including education, for cooperation in the use of their facilities and resources. A large measure of the philosophy underlying this whole matter lies in the constructive purpose of all men of good will.

2. There is a strong public relations factor entering into these operations. The entertainment pictures which originate in the Hollywood studios have been the subject of many different kinds of criticism from many groups Professional critics properly attack any art lapses. Special interest groups attack any violations of their objectives. Cultural groups deplore the low entertainment levels of some pictures, etc. Fifty pictures of wholesome, though perhaps innocuous, entertainment may pass unnoticed, while one or two outstanding films which offend some

substantial cross-section, create a furor of protest which makes the headlines. The impression given and gained is detrimental to industry prestige. Sometimes this is deserved, and sometimes it is not deserved. What is usually not recognized and publicized is the constructive side of Hollywood's contribution to the enlightenment of theater audiences. This recognition by educators that so much of Hollywood product has educational value is also a source of satisfaction. The use of these materials in cooperation with educational forces brings to the industry a respect which is well deserved and highly coveted. The leaders of the industry enjoy being associated with educational leaders in the program of enlightenment which the use of these theatrical materials provide.

3. The commercial motivation, undoubtedly, is present, but varies with the companies and with responsible individuals. It is certain that there is a distinction in industry thinking as to which of their activities are being made as services to education and which are considered to be stimulating factors in the development of a potential 16mm market. The rapidly increasing interest within the educational field, sometimes extravagantly expressed by educational leaders themselves, undoubtedly makes some of the film executives wonder whether the time will come when the entertainment film companies should be participating in the school film business. When the entertainment producers hear forecasts of film revenues, comparable to textbook revenues, with projectors in every school and in most school rooms, with new subjects being produced by the thousands, and prints sold by the millions, they, naturally, pause to wonder whether they should be making future plans to apply their experience in film making to meet such an anticipated educational market. For the most part, however, they are realistic about the future. Very few of their present educational

activities are initiated with the thought of commercial return. Lurking in the minds of many may be the thought that they want to be close to the educational film field, just in case some of the prophecies come true. This motivation, possibly present generally, may, nevertheless, be considered as a very minor factor in the motivation which prompted the entertainment industry to participate in the educational field.

The conclusion that can be reached with reference to education from the entertainment screen is this: That in the beginning the industry leaders were willing to have entertainment films used as a source of materials if educators were willing to modify their objectives so that the entertainment films would be of service. This viewpoint has radically changed and it may be fairly assumed that there is an increasing willingness on the part of owners of entertainment films to tailor their materials to meet the objectives of education. This will involve drastic changes of policy but it can be expected that these changes will come perhaps gradually, but surely, and that in many areas of the formal and informal education the entertainment screen will continue to provide teaching materials of high usefulness.

PART FOUR

The Educational Film Abroad

CHAPTER XXVII

THE EDUCATIONAL FILM IN GREAT BRITAIN

THOMAS HODGE
British Information Services

In 1940 a British Film Institute survey showed that the 30,000 schools in England and Wales had between them only 1,700 motion picture projectors, of which 1,300 were silent. In Scotland, conditions were a little better, for one-tenth of the schools and teaching establishments there had access to a silent motion picture projector. However, such equipment as did exist was very varied and included 35mm, 16mm, 9.5mm, and 8mm projectors. Much of it was obsolete and a good deal inadequately maintained. In the same year BFI estimated that a total of 2,800 available films were theoretically useful for educational purposes, but panel evaluation by the Scottish Central

EDITOR'S NOTE: Mr. Hodge has, by intention, severely limited his resume of the educational film's status in Great Britain, preferring to stress the unusually interesting plans underway at this date for wider use of films in the British educational system. The status of the educational film in Great Britain, the role it has played to date in school and out of school, and the problems which face any expansion of the British film program are reported at greater length in *The Factual Film* (published by Oxford University Press, London and New York, 1947, 260 pages). This excellent report is a survey presented by the Dartington Hall Trustees, prepared by PEP (Political and Economic Planning), an independent research organization. It covers the film situation in England, Wales, and Scotland, as it relates to The Documentary Film, The School Film, The News Film, The Record Film, and The Film and The Public. In it, readers will find a comprehensive discussion of the programs being carried on by such film bodies as the documentary film units, the Ministry of Information's Film Division, British Council's Film Committeee, Scottish Educational Film Association, local Film Societies, Scientific Film Association, Central Film Library, Workers' Film Association, Religious Film Association, and others.

Film Library estimated no more than 800 titles suitable for teaching purposes.

In a subsequent effort to improve the situation, the British Film Institute, in cooperation with the Ministry of Education, appointed four practicing teachers to campaign among local education authorities,* teachers' groups, universities and colleges for a wider and more intensive use of films in education. Scores of lecture-demonstrations were given all over the country and it looked as though some real progress would be made, but definite action on the campaigners' recommendations had to be postponed because the war situation caused the supply of projectors to educational institutions to cease altogether.

This campaign showed quite clearly that local education authorities had to face difficult and complex problems in order to develop the use of visual aids in their areas and that the whole supply and distribution of educational films was confused and unsatisfactory. Commercial film producers would not embark on any real plan to make educational films until there were more projectors in the schools to guarantee a market, and local education authorities would not purchase projectors until they were assured of a reasonable supply of suitable films. One commercial company—Gaumont-British Instructional—had produced some 200 films for classroom use over a period of five years and actively sought the cooperation of practicing teachers and subject experts. Unfortunately, all these films were sound and there were very few sound projectors in the schools; also, those available for purchase were expensive, very heavy, and difficult to operate. (A further complicating factor was the original adoption by Britain of the German DIN standard for sound films which was later changed to that of the American SMPE. This made all sound projectors purchased during the period of the DIN standard useless unless a special prism was acquired and, of course, it

* In Great Britain the term "education authority" refers to a school administrative unit.

made local education authorities loath to spend money until the projector manufacturers had adopted some permanent standard.) A few other commercial producers also took up educational film making, but on a small scale. In 1944, thirty-four out of 146 local education authorities claimed that their teachers had had some experience in film production. The British Film Institute was responsible for cataloging and assessing educational films for training teachers in their use. In Scotland, where the Educational Film Association built up a membership of some 5,000 Scottish teachers, the larger local education authorities worked with the teachers to try to solve the problems of the lack of suitable classroom films, and teacher-production units were set up. Almost one hundred four-minute silent films were produced by the Glasgow Education Authority and made available through the Scottish Film Council Library to other education authorities in Scotland.

There was a confused and unequal pattern of some 70 film libraries offering educational films, and these included commercial and industrial libraries, society libraries, as well as 17 libraries maintained by the larger local education authorities. The Central Film Library, a Government owned and operated concern, was responsible for the free distribution of films produced by and for Government departments. The situation in the commercial field was particularly bad because there was no general standard of charges and conditions of loan from commercial sources.

In spite of the wartime difficulties regarding the supply of films and projectors, several progressive education authorities pushed ahead. With assistance from the British Film Institute and the Ministry of Education, teachers formed teachers' film groups and organized film schools where teachers could learn how to obtain and use the available equipment and films. Britain's first Visual Education Centre was established at University College, Exeter, and much valuable experiment and research was and is carried out there.

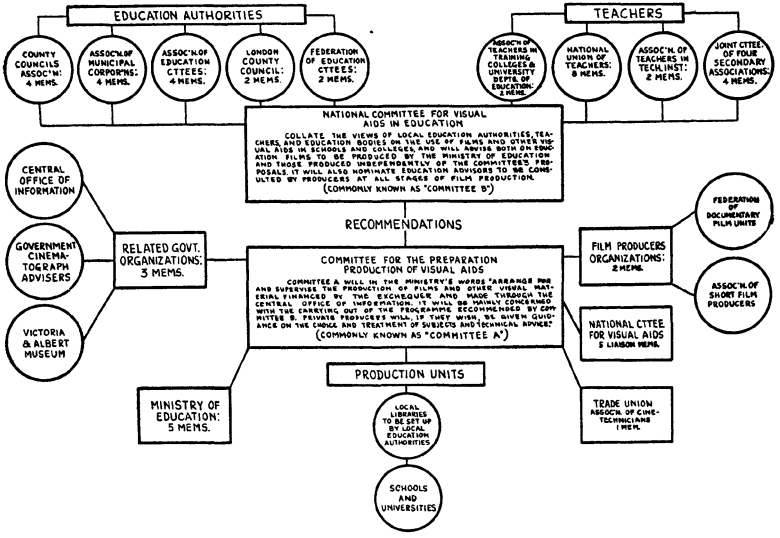
Although the war put an end to much of the practical work being done in the schools, great progress was made elsewhere, for the screen was used increasingly as a means of teaching new skills and imparting new ideas to vast numbers of persons engaged in war work. Training and incentive films were produced and used by the Armed Services. The Ministry of Information made films for housewives, nurses, civilian defense groups, farmers, and other civilian groups, and the Ministry of Supply took training films to workers in factories. The war brought about, for the first time in Britain, large-scale film production correlated to the educational and informational needs of the Services and civilian organizations, and teachers, instructors, and demonstrators were all keen to use the material thus provided.

The National Committee

As the war came to an end, the Ministry of Education, the British Film Institute, teachers' film associations, local education authorities, educational and documentary film producers, and other interested groups began to work on plans to turn the wealth of experience gained during the war to the service of the schools and colleges. Different groups drew up different plans, but all were agreed on the necessity to set up a Central Organization to coordinate the work of the Ministry of Education, the local education authorities, the British Film Institute, the teachers and the film industry.

In the end it was left to the Ministry of Education, the Association of Education Committees and the National Union of Teachers to prepare the scheme which was finally adopted. Patrick Meredith, who was then Director of the Visual Education Centre at Exeter, said that the present scheme is less expensive than the Film Institute scheme, less totalitarian than the Scientific Workers Association scheme and less ambitious than his own scheme. Two committees were established: one, representative of the teachers and education authorities to

Organization of the National Committee



formulate the requirements of the schools, and the other, a technical committee to translate these requirements into production. The structural organization of this scheme is shown in the accompanying chart "Organization of the National Committee."

The National Committee for Visual Aids in Education (known as Committee B) is composed of four members of the County Councils Association, four members of the Association of Municipal Corporations, four members of the Association of Education Committees, two from the London County Council, two from the Federation of Education Committees, two from the Association of Teachers in Training Colleges and University Departments of Education, two from the Association of Teachers in Technical Institutions, four from the National Union of Teachers and the Joint Committee of the Four Secondary Associations (Headmasters, Headmistresses, Assistant Masters and Assistant Mistresses in Grammar Schools) and five representatives from the Ministry of Education. Its work is financed by grants from local education authorities. Its objects include the planning of a policy for visual aids, the collation of the views of the educational world on visual aids, the preparation of a program of visual units to be produced by the other Committees, the nomination of education advisors where requested to do so by producers, and the development of regional and local libraries. It will also advise local authorities on the selection and maintenance of equipment, conduct research into audio-visual education, assess the merit of educational films and seek to improve standards of film appreciation among children and adolescents, act as a clearing house for information to teachers and local authorities, and encourage the provision of adequate facilities for training teachers in the use of visual aids. Through representation on appropriate national co-operating bodies, it will provide a link between the teachers and the work of UNESCO on the question of visual aids. It will take over the work

previously done in the educational field by the British Film Institute, though the latter will continue to assist in the work where required to do so.

The Committee for Preparation and Production of Visual Aids (known as Committee A) is appointed by the Minister of Education and is staffed and financed by the Ministry. Its task is to deal with the technical problems of the visual aids program and to act as liaison body with producers. Its members include Paul Rotha of the Federation of Documentary Film Units, Bruce Woolfe from the Association of Short Film Producers, George Elvin of the Association of Cine Technicians, representatives of the Central Office of Information, the Ministry of Education and other Government departments interested in the film industry, and five members of the National Committee. Representatives of other producer interests, *e.g.,* Association of Kinematograph Manufacturers, will be invited to take part in the work of the Committee from time to time.

In order to begin with the preparation of an interim program, the National Committee has set up five panels of practicing teachers with experience in visual aids drawn from all parts of the country. The primary group consists of two panels dealing with nursery and infant requirements up to 7 years and juniors from 7 to 11 years respectively. The secondary group is similarly divided into 11 to 13, 13 to 15 and over 15 age-group panels. Each panel contains a member of the Ministry of Education's Inspectorate with experience of visual aids, and has power to enlist subject specialists as required. Each of the two groups has a chairman responsible for the coordination of the work.

Over 130 projects, mainly films, which were chosen from a mass of ideas put forward by teachers, have been submitted to the Production Committee. To stimulate more interest, some of the shooting scripts will be published not only as a form of guidance in ideas but also to encourage teachers to write

complete scripts themselves. Silent as well as sound films are recommended, and it is intended that all pictures for infants will be in color. The films range from biological types for infants telling of birds and animals, to subjects such as social studies, the home, the development of the theatre, play-acting in schools, and the structure of international relations for the over 15 age-group.

Some of the films will be experimental and will be concerned with subjects such as the teaching of poetry, the fundamental principles of play-acting, and the teaching of mathematics. A complete visual unit, consisting of films, slide-films and other visual material, is planned for instructing teachers on the use of these aids in education.

Local education authorities eventually will be able to buy or hire these films through a central agency, the establishment of which is now under consideration by the Ministry of Education. It has been recommended that the agency—consisting of representatives of local education authorities, teachers, film producers and the Government departments concerned —should be organized in the nature of a sales organization, providing library, viewing, and servicing facilities.

The National Committee will be responsible for creating a network of local film libraries, attached to larger local authorities or group of authorities. These libraries will be responsible for the provision of films and the first-aid maintenance of equipment. Teachers will come to them for advice on available material and to obtain advance acquaintance with the films they wish to use. A tentative figure of 100 such libraries, supplemented regionally and nationally, has been set, and around them will be built the work of teachers' film groups cooperating in research into the use of educational films and in making films of local interest.

Among the first problems to be tackled by the Preparation and Production Committee are the allocation of films among producers, the establishment of a uniform price

schedule, the standardization of equipment, and a planned program for supplying projectors to schools as rapidly as limitations of production allow. Films requested by the National Committee which can be satisfactorily made by commercial producers will be allocated to them. Others, more expensive, will be commissioned by the Committee through the Central Office of Information. Thus, both the commercial producer providing his own finance, and the documentary producer will be utilized, and films made in both these ways will be available to local education film libraries at standard prices, fixed according to the cost of production and agreed profit. Advice will also be given where requested by producers of visual aids working outside the Committee's program.

Another early problem to be faced is a recommended scale of equipment, fixed according to production possibilities over the next few years. This will have to cover sound and silent projectors, slidefilm projectors, episcopes and micro-projectors. The more progressive local authorities have already adopted plans which would absorb all the equipment likely to be available, and this will need to be rationed out more evenly over the country as the slower authorities formulate their demands.

Visual Units

When the Ministry of Education began to take a real interest in the use of visual aids in schools, the Ministry of Information was asked to prepare a series of experimental teaching films which were to form parts of what have been called "visual units." The development of this scheme, since it was begun in 1944, represents probably one of the most extensive and carefully planned single experiments in visual aids yet embarked upon in any country.

The visual unit is an attempt to provide a complete and coordinated set of any of the visual aids, which are practical for the classroom, for each of a selected group of topics. The

units are really to form the basis of an experiment, and some idea of their scope and aim can be gathered from the following details of some of the components of the units. It should be emphasized that these components are not intended to provide alternative ways of telling the same lesson for schools equipped in different ways, for a visual unit assumes that all normal projection equipment is available. Each component is complementary to the other; it is designed to perform a distinct function and sometimes to cover a distinct area of knowledge within the main subject.

Sound films— The sound film is normally the central component of the visual unit since it carries the main message. In some cases, it consists of a single two-reel film and in others, of three chapter films to be used separately on successive occasions.

Silent films—These present certain aspects of the subject matter in a detailed form.

Slidefilms—Still pictures which enable the teacher to comment at length on key points in the subject matter.

Wall panels and display material—These will consist of wall panels carrying photographs, drawings and diagrams and, in certain cases, scale models. Permanent illustrations are thus furnished for leisurely day-to-day study.

Handbooks for teachers—Varying in length according to the material to be covered, the handbooks will give to the teacher such details as an index of the contents of the visual unit, a synopsis of the film, a bibliography, museum and other source references.

The first visual units were planned on the following subjects: Water Supply, Beginning of History, Houses in History, The Orchestra, Ships and Seafaring, History of the English Wool Trade, History of Writing, Development of Printing, and Local Study.

One of these visual units, that on Local Study, falls into a category quite different from the others. It is intended for

teachers in training, and deals with a method of using the study of local conditions already being carried out by a small number of schools, and is a method which the Ministry of Education desires to make widely known and practiced. In this case an important element in the unit is the teacher's textbook, which treats the educational theory and practice involved in a complete manner. For the first time, a new trend in educational technique will, in this way, be brought to the notice of the teaching profession through the whole range of visual aids.

The making of these units calls for a high degree of cooperation between many groups such as the Ministry of Education, the Central Office of Information, practicing teachers, and such scholars and artists as Ralph Tubbs, the architect, Rhoda Power, the historian, and Benjamin Britten, the composer, and also of the technicians of Crown and other documentary film units in Britain.

The Future

It cannot be denied that the future holds great promise for the educational film in Britain. The knowledge and experience of documentary and commercial producers and the planning and preliminary work now going on under the guidance of the National Committee—these factors give assurance of tremendous development in the coming years.

CHAPTER XXVIII

THE EDUCATIONAL FILM IN CANADA

GORDON ADAMSON
Secretary, National Film Society of Canada

Before considering the various aspects of Canada's educational film development two factors should be borne in mind: first, that much of this country's use of film dates from World War II; and, secondly the size and population density of the country.

Although one university operated a film library back in 1917 and several school boards made films available to teachers in their communities prior to the war, the major development of educational film use in schools has come since 1936. The broader community interest in film has been even more recent, most of its impetus having come from wartime experience in the use of this medium. The rural and urban circuits of the National Film Board were organized in 1942 and 1943 respectively. The amazing thing about the Canadian development is the rapidity with which popular demand for film in urban areas has created a permanent community-centered distribution pattern.

In making comparisons with the film development in the United States, especially in respect to schools, this factor of the recent rapid growth in educational film use in Canada may help to explain some of the differences that are apparent between the practices of the two countries. Canada's wide spaces and scattered population have been deterrent factors in the country's film development. With a population of ap-

proximately 11,500,000 spread across nearly 3,500,000 square miles, Canada has only about three persons per square mile. Canada has only eight cities of over 100,000 population, another 70 communities between 10,000 and 1000,000, and some 74 communities between 5,000 and 10,000. These population statistics help one to appreciate the comparison in size between the United States and Canada which vitally affects the potential film use at the present time.

The National Film Board

In Canada, the federal government agency for film production and distribution is the National Film Board, established by Act of Parliament in May, 1939. This action was taken as a result of a survey of film activities made for the Canadian Government by John Grierson, who became the Dominion's first Film Commissioner. The duties of the Board, as defined by the Film Act and subsequent Orders-in-Council, are to advise on government film activities, to coordinate national and departmental film programs, to direct the distribution of government films in Canada and abroad, and to coordinate and develop information services to supplement this distribution. Ross McLean, the present Commissioner, succeeded Mr. Grierson in January 1947.

Under the leadership of John Grierson, the Board developed the use of films "as they have never been used before, in a planned and scientific way to provide what might be described as a supplementary system of national education."[1] Originally designed to function in the field of film, the Board's scope has greatly expanded to include the preparation of posters, publication design, still photography displays, filmstrips and graphic media in general for government departments and agencies.

"In the visual presentation of ideas to serve the information needs of government departments and especially to dis-

[1] Hardy, Forsyth. *Grierson On Documentary.*

charge its own responsibility to present the Canadian scene at home and abroad, the National Film Board has become a fully integrated production and distribution agency for motion picture films, still photographs and all related graphic materials. The wide circulation of the Board's productions has thrown across Canada a new and vivid system of communications bringing to millions of citizens a clearer picture of the national pattern and their part in it. Through these media, Canadians learn more of the world and the ways of their fellow citizens and of Canada's relationship to the nations of the world."[2]

Provincial Government Film Programs

The Departments of Education of every province maintain audio-visual directors and supporting staff. The majority of these departmental film libraries have been established since 1936, the year when Mr. D. W. Buchanan, the first secretary of the National Film Society completed and published the findings of a nation-wide survey of educational films use in Canada. This survey was financed by the Carnegie Corporation of New York.

Since education is the responsibility of the provinces, their various audio-visual programs differ somewhat in policy. In over half of the nine provinces, the provincial film libraries serve adult groups as well as schools. Some provinces provide a subsidy towards the purchase of equipment by local schools or school systems. Others encourage a pattern of decentralized film distribution and are assisting the large cities to finance film libraries for their own schools. Each province has to work out the grade correlation for the instructional films since the curriculum varies from province to province. A measure of coordination is effected through the Canadian Education Association—a voluntary national body in which all provincial Departments of Education participate. For example, this As-

[2] National Film Board, *Annual Report* for 1945-46.

sociation sponsors an Evaluation Service whereby the findings of one province's screening panel can be brought to the attention of all the others. This committee also advises the National Film Board in respect to the films it produces for distribution to schools in order that curriculum needs of the various provinces may be satisfied.

The figures for Ontario show the extent of audio-visual development in Canada. In 1946, this province, the country's largest in population, reported 38,831 showings to a cumulative total of 3,681,736 students, nearly double that for the previous year. Most of the provinces are greatly increasing their appropriations for audio-visual work in an effort to meet this ever-growing demand. Film libraries maintained directly by these Departments of Education in Canada contain between 300 to 500 different subjects. In the larger provinces, multiple prints of each subject run to four or five copies, with even ten copies of some of the more popular subjects for elementary grades. Most libraries follow the practice of purchasing single copies of each film and adding to their supply as booking demands indicate the need. Filmstrips, glass slides, gramophone records and transcriptions are also included in some libraries.

A number of provinces are taking steps to institute teacher training in the use of audio-visual aids through the normal schools, colleges of education, summer courses, and local institutes or conferences.

Provincial Departments of Health, Lands and Forests, Agriculture and Tourist Development, among others, are regular film users who, in many cases, maintain their own libraries. Nearly every province has at some time had films specially produced on behalf of some branch or department. Three provinces have set up provincial film boards to coordinate such activities.

Sources of Educational Film

In addition to the film programs of the federal and provincial governments, other agencies of distribution to be considered include the National Film Society, the various University Extension Departments, the community film libraries, and the commercial film companies.

The National Film Society

A group of public spirited Canadian educators and laymen established the National Film Society in 1935 to encourage and promote the study, appreciation, and use of educational and cultural motion pictures. During the first five years, important work was done by means of surveys, articles and speeches to promote the use of audio-visual education, and some ten local Film Societies were organized in the larger cities to show outstanding films not usually available in commercial theatres. In 1939, a lending library of films was set up with the help of the Imperial Relations Trust of Great Britain and the Rockefeller Foundation. In addition to being a national clearing centre of information on film, the Society took on the task of procuring and distributing educational film.

The Society's present collection of films include about 3,000 different titles classified by the Dewey Decimal System under some 900 subject headings. In addition to prints purchased from commercial educational producers, this library makes available to the public National Film Board releases and many government-produced films from the United Kingdom, Australia, New Zealand, South Africa, India, Sweden, Switzerland, the Netherlands and other countries. For some of these countries, the Society re-distributes the films on a deposit basis to the educational film libraries across the country.

In building up a comprehensive national collection of

film, the Society invites national organizations with an interest in a special subject field to donate to the library all important films in that field. Government departments also use the facilities of the Society in making specialized films available to the public. This policy of building the Society's film collection into a National Library will result in Canada having a most comprehensive selection of educational films suitable for both school and adult use.

The University Extension Services

Some eight of Canada's universities and colleges circulate films. One of them, the University of Alberta, operates the oldest educational film library in Canada established in 1917. These libraries usually supplement the films available from the Departments of Education, the collections of which are intended primarily to serve primary and secondary schools. Created to assist in adult education work, as well as in university classes, these film libraries co-operate very closely with other agencies carrying on extension programs. With the rapid development of community film libraries, many university libraries now act as regional coordinating centres through which purchasing and the circulation of blocks of prints for short term deposit are carried out co-operatively. A list of all films in an area, revised regularly to give correct locations, makes possible inter-library loan of films for special showings.

Canada's universities, in building up extensive film collections, are strengthening the educational film resources on a provincial basis so that borrowers in each region may more readily locate specific material required for functional programs.

Community Film Libraries

In some 200 Canadian communities, non-profit distribution facilities have been established to make educational

films available to the ever-increasing number of groups and organizations desirous of using visual materials.

There is a growing tendency, encouraged now by the Audio-Visual Committee of the Canadian Library Association, for public librarians to regard films as one of the normal means by which they provide information to the communities they serve. In some centres where the public library has provided a film service for a number of years, an annual appropriation makes possible the purchase of several thousand dollars worth of new films; in other cases, only a few hundred dollars are available, accumulated from the nominal service charges and voluntary fund-raising. Film service provided by the libraries is not limited to the films which have been purchased outright by them; many libraries belong to circulating exchanges which provide them with temporary deposits of films, renewed every few months, and even the smallest library can have full information on other film sources from which suitable material may be obtained for its borrowers. By calling upon the resources of the large libraries in the province or those of the National Film Society, in Ottawa, any community can have access to even the most specialized films.

In some cases where the public library has not been prepared to render such a service, community interest in this new medium has resulted in arrangements being made for the circulation of films from such diverse repositories as a fire hall, a local store, YMCA's and various other local service centres. Often, the initiative for the establishment of a film library in communities has come from the Film Councils, which will be described more fully later.

Commercial Film Libraries

Although several large film companies operating on a national basis with branch offices in key centres across Canada were among the pioneers in this country's film development, their rental libraries do not now carry any quantity of educa-

tional material. Most commercial rental libraries supply itinerant operators and the home movie owners, with the result that the films they stock include entertainment features, serials, cartoons, sport shorts, travelogues, musicals, etc. The fact that public libraries or other service agencies in many communities are circulating educational films for a nominal service charge has, in general, made it uneconomical for commercial interests to engage in this aspect of film distribution. Most religious films, however, are distributed almost exclusively through commercial channels. While noting this lack of important commercial activity in educational film distribution, a situation perhaps unique to Canada, it should also be stated that the commercial firms and dealers in this country are actively furthering visual education through the sale of both projection equipment and films.

School Use of Films

In Rural Areas

Since its system of rural circuits was set up in 1942, the National Film Board has, in co-operation with farm organizations and provincial Departments of Education and Agriculture, been giving showings in country schools as well as to adult audiences. In 1947, out of a total of 157 circuits, some 67 were staffed by field representatives employed by the National Film Board and 90 sponsored by co-operating agencies. In his tour of 20 communities a month, the usual practice of the field representative is to visit a school each afternoon, and sometimes in the morning as well, with his equipment and films. If there are several small schools in the district, the pupils gather in the largest schoolhouse or in a community hall to see the films all together.

Where possible, the children are grouped by grades, and films are shown which are specially suited to the age and studies of each group. A week or two in advance, the teachers on the circuit receive utilization booklets or teaching guides

especially prepared for use with the school program and suggesting points for discussion and project work. The teacher may read up on the films as an alternative to previewing them, and thus be able to prepare the class for them. After the showing, the main points of the films are reviewed, and project work may be undertaken. In addition, the teachers may arrange to procure specific films to fit in with their work.

Many of these field representatives of the National Film Board carry gasoline-powered generator sets so that projectors may be operated in communities not yet serviced with electricity. This means that showings are made both in very remote districts and out-of-the-way smaller villages where the children had never seen a film before. Such film shows are of inestimable value to small communities which formerly had little contact with the world outside before it was brought to them on the screen.

In Urban Areas

The number of projectors used in urban schools is constantly growing, with some dozen or more municipalities operating their own film libraries and at least half that number of cities employing full-time audio-visual directors to ensure that adequate attention is given to this important aspect of modern education. With all provinces now operating a free library service to schools, there is strong inducement for local schools to acquire their own projectors. Increasing numbers of teachers are also becoming aware of the advantages of using appropriate audio-visual materials in their respective subject fields, and the demand upon provincial libraries in requiring that these libraries carry an even wider range of film material.

A recent survey of five cities in Canada indicates that the use of film depends upon the interest (or lack of it) of the authorities in each centre, rather than size of the population. The community making the most frequent use of film amongst those surveyed was a city with 11 schools and a

school population of only 3,809 pupils. The average number of showings per month in this centre was 220, and the number of films seen per pupil per month was five. Those cities which schedule films on a circuit of all schools have a much higher rate of showings than those that send films out in answer to requests from teachers. The circuit system is used to offset the lack of sufficient equipment, but the goal of a "projector in every school," as soon as funds and supply permits, seems to be the objective wherever school authorities are awake to the value of the film.

Educational Films Outside the Classroom

Rural Circuits

The same National Film Board Rural Circuits which serve children in schools do double duty by bringing film programs to adult groups at night. From coast to coast, these Circuits serve every type of audience: farmers, fishermen, ranchers, lumbermen and fruit growers. The programs endeavour to combine general informational films with specific functional subjects, which is no easy assignment considering the diversity of audience types.

The rapid growth of these Circuits stands as evidence of the popularity and effectiveness of this method of bringing information to isolated communities. Organized back in 1942 to disseminate wartime information, the Circuits are today supported and used by government departments, both federal and provincial, as well as by voluntary organizations such as Wheat Pools and Federations of Agriculture. Departments of Agriculture and Health were quick to see the potentialities of the Circuits. Films on soil-testing, potato cultivation, and the control of weeds have done much to make farmers aware of the value of improved agricultural methods. District agriculturalists frequently accompany the field representatives of the National Film Board to speak on some aspect of farming.

Integrated programs can be developed around films on

subjects of specific interest. On each monthly program, there is one film selected for study purposes on which a list of supplementary discussion material is prepared. For instance, the National Film Board film, *Certified for Seed,* deals with the prevention of diseases of potatoes, an important crop in many parts of Canada, both nutritionally and economically. In co-operation with federal and provincial government departments and Federation of Agriculture officials, a campaign was developed to educate farmers in methods of preventing potato disease. Some idea of the supplementary resources placed in the hands of local community leaders can be appreciated by an examination of the contents of a kit especially prepared to accompany the film: mimeographed announcements advertising the showing in advance, for distribution to individual farmers; radio announcements of the showing for local broadcasters' use; a summary of regulations affecting the production and sale of certified seed potatoes; a large coloured wall chart illustrating potato diseases; a list of district inspectors, seed potato certification and Officers in Charge, Dominion Laboratories of Plant Pathology; two leaflets on "Bacterial Ring Rot of Potatoes"; a sheet on control measure for "Frost and Low Temperature Injury"; a sheet describing standard disinfectants for treating seed potatoes; two pamphlets on "The Potato in Canada and Potato Culture."

Health is a subject field often included on these programs, and rural people have discovered the value of films on nutrition, preventative medicine, dental clinics and sanitation, both as an incentive to action on special projects and as a regular means of public education in the rules of good health.

Films on international and social problems serve as the basis for stimulating discussion which goes far to make these issues more real to the Canadian farmer. Frequently, there is coordination between the film showings and the Farm Radio Forum discussion programs carried by the Canadian Broadcasting Corporation.

The recreational value of these programs has also been developed, and especially produced sing-songs are now frequently included. Rural film showing have grown steadily in importance until in many districts they now serve as one of the focal centres of community life. Sometimes associated with the showings, sponsored by local organizations, are dances, lunches, or sales of sewing and baking by means of which funds are raised for various purposes. Spontaneous efforts to "fix up" the local meeting place in church, school or community hall are reported from hundreds of centres, and the spirit of co-operation, once given birth, goes on to improve other aspects of rural life.

The National Film Board rural circuits have been increasingly supplemented by the development of local facilities of rural film service under the sponsorship of school divisions and a variety of rural organizations. Increasingly, projection service is provided by the rural communities themselves, and the films obtained from film libraries. By 1948 films distributed by the National Film Board alone through circuits and libraries, were reaching as many as 500,000 rural people in a month, of which approximately half were pupils in rural schools. The large number of films provided to rural communities by agencies other than the National Film Board, are not included in these figures.

Urban Community Use of Films

In some 195 Canadian communities, the educational film idea has so taken root that Film Councils have been formed to provide an organized approach to the promotion of film use on the part of local groups. These councils encourage the establishment and development of film libraries, assist in the selection of new films, arrange preview showings to bring such films to the attention of organizations for which they would be appropriate, and, through the press and other means, make known the services of the film library.

In practically all of these communities, the councils also

assist in the operation of the community projection service. This volunteer service was first developed in 1942 as a means of stimulating the showing of war information films. Junior Boards of Trade and service clubs at that time undertook this work as a patriotic service, and members of these groups trained as projectionists made themselves available to go out and put on showings. Today, with the rapid increase in the number of projectors in use on community work, it has been necessary for film councils to organize training classes so that members of various groups can learn how to project the films used by their own organizations.

An examination of the membership of a typical film council gives an indication of the widespread interest in the use of film on the part of community groups of all kinds. For example, the Kingston Ontario Film Council lists the following organizations as members: Youth Commission, Junior Chamber of Commerce, YMCA, Separate School Board, Kinsmen Club, Chamber of Commerce, Optimist Club, YWCA, Rod and Gun Club, B'Nai B'Rith Society, Ministerial Association, Service Club Council, Board of Education, Council of Women, Lions Club, Horticultural Society, Nutrition Council, Rotary Club, and Kiwanis Club.

While such an encouraging development arises in large measure from the convenience with which both films and projection service can be obtained, it also results from the satisfactory success attending the showings by local organizations of films appropriate to their interests.

The topics on which films have been made available to Canadian libraries on a deposit basis by the National Film Board include such subjects as world peace, international relations, racial tolerance, citizenship, housing, community cencentres, health, welfare, nutrition, employment, agriculture, music and painting. Films produced in other countries give Canadians an opportunity to learn how people in different lands live and how they face problems similar to ours. Many

such films lend themselves to discussion, and some community Film Councils are now sponsoring demonstration workshops where local discussion leaders are instructed in the techniques of the film forum. As a further aid to effective discussion, film libraries are supplied with the "kits" prepared to accompany certain films on rural circuits as already described in some detail.

Films are used for an unlimited number of purposes by local groups. Public libraries use films in connection with children's story hours or tied in with book displays to promote circulation on special topics. Service clubs and home and school groups use films to supplement their speakers at meetings. Labour unions use them as attractions in integrated educational programs, which include discussions. Churches not only count on films for "Fireside House" but, in some cases, build their Sunday evening service around a carefully selected film. Women's groups, in addition to using films to touch off current events discussions, avail themselves of informational films on the planning and preparing of meals, sewing and dressmaking, home nursing, and child care.

The functional use of films in Canadian communities has now becomes so widely accepted that, when it comes to planning campaigns, local organizations almost invariably count on them to play an important role. In drives for the Red Cross, for Community Chest Funds, Clothing Collections, for the Cancer Fund, for Clean-up Week and scores of other campaigns, effective use of suitable films, is made before large audiences, both indoors and out. Frequently, in such campaigns continuous showings are arranged in stores or public buildings and a number of mobile trailers equipped for daylight rear projection are employed on either busy street corners, parks or other places where crowds of people are most likely to gather together.

There is at present no method of obtaining figures covering over-all use of non-theatrical films in Canada, but some

idea of the volume of film use by urban community groups is afforded by the reports made to the National Film Board on the audiences seeing films distributed by the Board. By early 1948 these reports showed that as many as 400,000 people in urban audiences were reached in a month by films distributed by the Board.

Educational Film Production

The National Film Board

The chief Canadian producer of educational films is the National Film Board, whose output during the fiscal year 1946-47 amounted to 177 subjects, ranging in length from brief newsclips to the one-hour *Exercise Musk-Ox.* Fifty-nine of the major films in this group were sponsored by federal government departments. Films of an experimental nature or dealing with subjects not directly related to the work of any government department were paid for out of the Board's own appropriation. These unsponsored productions include such films as those in the Canadian Artists series, of which *Klee Wyck,* which deals with the work of the West Coast painter, Emily Carr, is a recent example.

The Board's production staff is divided into fourteen units, each specializing in a different type of film. Every unit has its own producers and directors, and draws on a central pool of musicians, artists and technicians. Two of the units work entirely with French-language films, one doing original production and the other making French versions of subjects first produced in English. Spanish, Portuguese, and other foreign-language versions of Canadian films to be distributed abroad are handled by another unit. The animation unit provides all animated maps and diagrams required for National Film Board productions, as well as turning out such animated films as the Let's All Sing and Chants Populaires series.

One of the Board's major units produces films on subjects related to agriculture and rural life, many of which are

sponsored by the Department of Agriculture. This unit has done a great deal of experimental work with color film, which is now used for most of its production. The range of topics handled by the agricultural units is indicated by the titles *Quality Beef, Farm Electrification, Soil for Tomorrow, Vegetable Insects,* and *Farm Homes Beautiful.*

The unit which specializes in films on industry and labor relations works closely with the Department of Labor. Its productions include the four *Accidents Don't Happen* films on industrial safety, and *Builders for Tomorrow,* on an apprenticeship training plan in the building trades.

Interesting experimental work with classroom material is being carried on by the educational film unit. Films in its Junior Community series explain the different public utilities and municipal services in terms suited to children in lower school grades. The Board's Filmstrip Division produces a filmstrip covering supplementary aspects of the topic to accompany each of these films. Similarly, the Posters Division designs a poster illustrating key points in the film and filmstrip, which can be displayed on the classroom wall for continued reference by the pupils.

Widespread theatrical distribution is given to educational films in the Board's Canada Carries On series. These one-reel monthly releases cover many features of Canadian life—cultural, industrial and social. One of the most popular subjects was *A City Sings,* on the Manitoba Musical Festival. Other typical films in the series include *Eyes On Canada, Inside the Atom, The New North,* and *River Watch.* Six months after each has been released to theatres it is made available to film libraries in 16mm size.

Commercial Producers

In Canada there are some five film producing companies with full studio facilities; of these only three have animation departments. About ten additional companies have motion

picture cameras, some lighting equipment and trained personnel. Most of these production agencies have commenced operation since World War II, and this country is looking forward to continual development of its young but steadily growing film industry.

The over-all volume of production runs to approximately 200 reels per year, involving budgets of about three-quarters of a million dollars. One large producer is responsible for about one-quarter of the total output, while several other producers average about 30 reels per year.

Many of the films presently being produced commercially in Canada are shot in 16mm color. The sponsors of such production include industry, medical bodies, provincial government departments, educational and religious organizations. Industrial film programs serve a number of areas of interest such as training job instruction, safety, employee induction, and public relations.

Up until the present time few if any instructional films have been produced in Canada for the purpose of direct sale to educational bodies. The volume of sales in this country has not yet developed to a point where production costs can be amortized through prints sales, although it is hoped that this time will come in the near future.

To encourage the greater use of film for all purposes the Film Producers Association of Canada has been established. It seeks to set up production standards, uniform trade practices and by various means to protect and extend the interests of the film industry in this country.

Specialized Organization and Promotion

The increasing use of film in a number of special areas has led to the establishment of organizations, committees or councils to promote showings to such specialized audiences. Included among these are the following:

(1) *National Film Society—Scientific Division*—formed

to coordinate the efforts of all those interested in the production and use of scientific films, including particularly educators, industrialists, film producers and distributors, engineers, scientists and other professional workers. The work of previewing and evaluation is divided between panels or committees operating in various segments of this field; the medical committee is especially active. Special catalogues and a program service make the findings of these panels available to members. The formation of local Scientific Film Societies is encouraged so that special public showings of science films will be thus promoted.

(2) *The National Labor Union Film Committee*—organized to serve as an advisory body to the National Film Board's Trade Union Circuits which carried film into union meetings during the war, this committee now selects and recommends programs with a special application to labor. Local unions book films through their community film library and avail themselves of the volunteer projection service to get them shown. The committee comprises representatives of the two large labor congresses, workers' education and the film interests.

(3) *Industrial Film Councils*—have been set up in a number of the large cities to provide projection service and special films to industrial plants in their area. A library of specialized industrial films is being built up covering such subject fields as supervisory and vocational training, safety, health, employee relations, etc. Already there is evidence that the pooling of interest in such specialized fields will lead to the production of films in Canada to serve these needs. The Industrial Division of the National Film Society is coordinating the work in this field, which will include also the distribution of public relations films for industry.

(4) *Films for Women*—sponsored by the National Film Board, this service includes the supplying of a catalogue of

selected films, suggestions on the use of films in program planning, and the encouragement of training classes for women projectionists. A number of national women's organizations are co-operating with this project to the extent of distributing these materials and arranging for the appointment of film convenors in local branches. About 1,000 such group and clubs throughout Canada are now regularly receiving such film information.

Evaluation of Films

Mention has already been made of the Film Evaluation Service of the Canadian Education Association which co-ordinates the findings of screening panels sponsored by the various provincial departments of education. Although each province has designed forms suited to its own use, all have agreed to fill out in addition a copy of the CEA card which is mailed to the National Film Society for compilation, reproduction and distribution. All departments of education and school boards throughout Canada receive these regular evaluation releases, and other bodies such as public libraries, industrial firms, advertising agencies, film producers and organizations or individuals may subscribe to the service for a nominal fee. Before setting up this service, the Canadian Education Association conducted a survey to determine the films deemed most useful for instructional purposes. Each province submitted a marked copy of its current film catalogue and these were compiled into a sixty-seven page report covering both silent and sound films most used in Canadian schools.

The national teachers' organization has now become interested in the extension of the use of audio-visual aids in schools from the teachers' point of view and is developing a policy for the guidance of provincial federations. Already, the number of subject fields of the curriculum for the purpose of locating and recommending specific teaching aids in their particular areas of specialization. In some cases, special film

lists have been circulated to their members by specialized teachers' organizations. In other cases, the findings of the evaluation screenings are being published in the educational magazines read by teachers.

Within the past few years a number of evaluation projects have been developed to serve the particular needs of specialized interest groups. Mention has already be made of the specialized work being done in the fields of labor, science, industry and women's interests. The descriptions of some other projects will help to indicate the pattern that is emerging in this country on this aspect of film use:

(1) *Public Health and Medical*—In collaboration with the Department of National Health and Welfare and panels of experts in these two fields, the National Film Board has arranged for the screening and evaluation of all films that have been produced in these two important subject fields. The resulting library so developed is one of the most complete collections of health and medical films in existence.

(2) *Physical Fitness*—On behalf of the National Physical Fitness Council, the Department of National Health and Welfare is also developing a special preview and sale promotion library of all various instructional films on physical education, games, and sports. This project recently has been extended to include such cultural subjects as music, handicrafts, the arts, etc. It is expected that within a year this collection will contain all films with definite educational value in these fields.

(3) *Films for Adult Education*—The Joint Planning Commission of the Canadian Association of Adult Education has set up a film committee to evaluate and recommend films for the use of the Commission's fifty-odd national organizations. Following procedures worked out for this field in the United States, separate screening panels have been set up to cover International Affairs, Social and Community Problems,

and Economic Problems (including agriculture, labor, and co-operatives).

(4) *Religious Films*—The Audio Visual Committee of Canadian Council of Churches is presently engaged in collecting evaluations of audio-visual aids for religious purposes so that a list of recommended materials can be distributed to the various participating denominations and organizations. The Religious and Educational Audio-Visual Aids Society also distributes evaluations to its members across Canada.

(5) *Films for Children*—A representative committee of national organizations has been organized by the National Film Society to survey and report on the showing of suitable films both in the theatrical and non-theatrical fields. Included in this project will be the evaluation and testing of films available for all types of children's programs.

By common agreement the majority of the above evaluation agencies are releasing their findings in a uniform format, namely 8½" x 11" size punched for standard ring binder. The National Film Society is acting as co-ordinator and distributor of these various evaluations to insure maximum efficiency in respect to the indexing and cross-referencing of the different findings made on any given film.

To provide a common meeting ground for the various specialized users of educational and cultural film who are now forming into specific interest groupings, it is expected that the National Film Society will soon establish a National Visual Institute for Canada as recommended by the United Nations Educational, Scientific and Cultural Organization. Such an Institute would thus be able to plan for the greatest possible utilization of 16mm film in all areas of this country's national life.

CHAPTER XXIX

THE EDUCATIONAL FILM ELSEWHERE ABROAD

THEODORE MACLEAN SWITZ
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THE world is far from being one politically or culturally, yet it is remarkable how new ideas spread about the globe, particularly if they involve technological innovation. Educational films represent a creative and powerful cultural innovation, arising from technological advances. Within a single generation the concept of audio-visual aids has penetrated the thinking at least of educational leaders in most countries: whether vast and primitive regions in Central Africa, age-old civilizations in China and India, communist dictatorships, or modern and bustling countries in the Southern Hemisphere, such as Brazil and Argentina, or the great British Dominions.

Throughout this vast area there are many handicaps to the development of the use of audio-visual aids in teaching. There is a great lack of projectors of all kinds; there is a totally inadequate supply of film either silent or sound—and what there is is none too well distributed. There is shortage of funds; there is the inevitable inertia that impedes the development of new ideas everywhere.

But as the following report shows, individual seeds have taken hold here and there, and during the next few years education abroad will be stimulated by this creative new method of teaching just as it has been in the United States. It

is with humility that we present the report, for the subject is complex and the field vast; within the confines of this chapter we can give no more than a brief and superficial review.

France

A pioneer in so many things of the arts and the intellect, France has also been a pioneer in educational films. One indication of this is that many of the films still in the educational national film library at the Musée Pédagogique are in the 35mm size. The general individualist character of French work is both its strength and its weakness; brilliant single films or group of films exist but there seems little evidence of systematic coverage of the main subjects of the curriculum. Of course the Commission Ministerielle du Cinématographie d'Enseignment (Educational Ministry's Educational Film Commission) was inactive during the war and only reorganized in 1945. The Fédération Nationale du Cinéma Educatif (National Educational Film Federation), a private association, is doing a great deal to stimulate interest in this field.

At the end of 1945 it was estimated that there were about 4,000 16mm silent projectors in French schools, but there were only a few hundred 16mm sound projectors in all of France. Probably stimulated by the famous speech of General da Gaulle, criticizing the overly classical character of French education, the Ministry of Education and the Government now seem interested in reform and have been talking for some time about introducing from 10,000 to 60,000 16mm sound projectors in French schools.

Although the silent film has received much attention in France, educational leaders recognize the advantages of sound films, and the trend is now definitely toward sound.

Films of particular interest which illustrate types and trends include *La Fabrication des Bouteilles* (The Production of Glass Bottles), silent, *La Machine à Vapeur* (The Steam Engine), silent, and *La Matière Caoutchouc* (Rubber,) sound,

by Prof. Marc Cantagrel; *Les Canaux* (Canals), sound, and others in his regional geography series by Jean Brérault. Both of these producers make good instructional films and do exceptionally able animation. Other recent films include *La Varlope* (a kind of plane), silent, to be used in schools of carpentry, and *Opération de la Cryptochorde* (Operation on a Horse for Cryptochordism), sound, a veterinary film with actual photographs of the operation plus excellent animated diagrams.

Scandinavia

Scandinavia is another area that early became interested in the possibilities of films for teaching; in Sweden particularly, the use of educational films began about 25 years ago. In neither Norway nor Sweden has the government intervened directly, so films have been supplied by private companies or cooperatives, and the decision to use them has been local rather than national.

The Swedish companies have produced teaching films, but the bulk of the supply in both Norway and Sweden has come from abroad, particularly from Germany, but also from Great Britain, France and America. The catalog of the oldest and largest distributor entitled "Skol— och Bildingsfilm" (School and Educational Films) lists about 1,000 film titles that are available. It is estimated that there are between 2,000 and 3,000 silent projectors in Swedish schools, and up to the present, extremely few sound projectors. The general opinion of Swedish teachers is still in favor of silent films, but the children prefer sound films and the voices of some leaders in favor of sound films are now being heard. In Norway, although due to the war practically only silent films have been used up to the present, there seems to be less prejudice against the sound film, and a more ready acceptance of its particular contribution.

Like most European countries, Sweden is very much in-

terested in the cultural aspects of films. Therefore, the documentary and cultural shorts of an educational character are popular. Mr. Arne Sucksdorff, who works with Svensk Filmindustri, is a young and outstanding leader in this field. His films *Trut* (Sea Gulls), about bird life on an island in the Baltic, and *En Sommersaga* (A Summer Tale) about the life of a young fox cub, are technically brilliant, very imaginative, and splendidly edited. Mr. Sucksdorff's work puts him internationally in the front rank as a film artist.

Holland

Before the war there were individual enthusiasts in Holland who were interested in educational films, but there was no official interest in the subject, nor any large scale application. During the war the Germans wanted to introduce their films, and to counteract this the Dutch got started themselves and are now deeply interested.

The Nederlandsche Onderwijs Film (Netherlands Educational Film) in The Hague was formed in 1941 as a separate company, but it is completely under the control of the Ministry of Education. It has a team of subject-matter specialists, teachers, continuity writers and cameramen. It prefers this method to "farming films out" to be made by independent producers. The company has had a budget of 350,000 guilders ($140,000) per year and has produced at the rate of 15 silent films per year. All the work is done directly in 16mm. It is essentially the German technique, but the films are more selective, better edited, and have better pace. The company's intention is to make the film so simple (it is working on primary films only, mostly geography of Holland) that the child can understand *by looking only,* even without comment by the teacher. Typical comments are: "We don't want to help the child too much." "We want to stimulate him to look and analyze and think for himself." "We think U. S. educational films make it too easy for the child."

Actual application of the film to teaching is still on a very restricted scale. Practically all secondary schools have a 16mm silent projector, but most primary schools have to borrow them. At the end of 1945 there were practically no 16mm sound projectors in the schools.

Switzerland

Switzerland has been active in the field of educational films for many years. The SAFU (short for Schweizerische Arbeitsgemeinschaft für Unterrichtskinematographie, or Swiss Educational Film Cooperative), led by Prof. Dr. Ernst Rüst of Zürich, celebrated its 25th anniversary in 1946. Switzerland, like the United States, is a federation, and each canton determines its own educational policy, so there is no official government center for film work. Another organization, founded in 1921 in Berne and now the largest in the field, is the Schweizer Schul und Volkskino (Swiss School and Peoples Cinema), under the leadership of M. R. Hartmann. This is a private membership organization to which schools and clubs belong. Both organizations have stimulated the idea of the film as a tool in modern teaching. The SAFU has made a small number of films, but the Schweizer Schul und Volksino has specialized in adapting foreign films for Swiss use and in maintaining a large circulating library on which Swiss schools can draw.

Swiss education is extremely conservative, and Swiss teachers who show any interest in educational films are rather passionate partisans of the silent films, even to the extent of being hostile to sound films in principle. The largest group of foreign educational films available in Switzerland are the silent type that were made in Germany by the Reichsstelle and others.

The Soviet Union

From its earliest days the Soviet Union became interested in the film both as an instrument of education and of propa-

ganda. Little first hand knowledge of Russian efforts in this field is available, but from Russian publications and exchange of correspondence we can report the following. The extent of Russian interest is perhaps best judged from the "Catalog of Popular-Scientific and Technical-Instructional Films Now in Use" which was published in 1944. It lists and describes "school films" in the following fields:

1.	Language and out-of-school work	30 titles
2.	Natural science	28
3.	Botany	30
4.	Zoology	41
5.	Anatomy and Physiology	19
6.	Theory of Evolution	9
7.	Geography	
	(a) An introductory course	52
	(b) Physical geography	22
	(c) Geography of the U.S.S.R.	54
	(d) Geography of Foreign Countries	5
8.	Physics and Technology	52
9.	Mathematics and Astronomy	12
10.	Chemistry and Geology	21
11.	Military subjects	
12.	History	10
13.	Literature	3
	Total	388 titles

Up until 1938 the only organization supplying the schools with educational films were the branch offices of the Central Film Rental Department, which handled entertainment and all sorts of films. Between 1938 and 1941 special school-film libraries were set up in many large cities, such as Moscow, Leningrad, Sverdlovsk, Rostov and others. These libraries are said to be under the supervision of trained educators and their work is entirely subordinated to the requirements of the schools they serve. Their personnel engaged in re-

search work study the most effective methods of using films in teaching and assist teachers in learning how to use this new medium of instruction.

There are reported to be 24 borough film libraries in Moscow at present, besides the central municipal film library.

Before the war all Moscow and Leningrad schools are said to have had their own silent projectors and slidefilm projectors, and many schools also have sound projectors. Before the war the Peoples Commissiariat of Education of the Russian S.F.S. Republic had distributed approximately 7,500 silent projectors and about 500 sound projectors in the schools of the republic.

Germany

Pre-Hitler Germany was one of the early experimenters in the use of films in teaching. Some of the films were made exclusively for teaching; others, particularly some of the brilliant nature study shorts produced by UFA, were to be used in the theatre but could be used in the classroom also.

During the Hitler epoch films became even more important. On the one hand, they were used on a huge scale to train and indoctrinate the youth of Germany in the Nazi ideology. (This is an important story in its own right but is beyond the bounds of this summary.) On the other hand, an extensive development in truly educational films also occurred under the leadership of the "Reichsstelle für den Film und Bild in Wissenschaft und Unterricht" (National Center for Films and Pictures in Science and Education.) The goal of this organization just before the war was to have 50,000 16mm silent projectors in German schools. Silent films were used practically exclusively. The reason for the emphasis on silent films was twofold: economic—because the silent machines were simpler and cheaper, schools could be equipped for visual instruction more quickly; pedagogic—German teachers felt that silent films were more flexible and that the teacher's authority was challenged by the sound film.

In 1945 the Czechoslovak government reported to the Audio-Visual Aids Commission of the Conference of Allied Ministers of Education in London (preparatory to the formation of UNESCO) that in the preceding ten years the RWU had produced 380 16mm silent films for primary, secondary and vocational schools. About 200 of these films were sent to London to be screened by the Commission. The writer had the privilege of attending several of the sessions at which experts viewed the films. Some idea of the type and variety offered can be judged from these titles: *Young Stork on Nest, Chimney Swallow* in the Nature Study series; *Herring Fishing, Children of North Sea Fisherman, Codfish Drying in Iceland* in the Geography series; and *Fertilization and Division of a Rabbit Ovum, Heart Action* and *Breathing in Man* an X-Ray Film, *Flow of Protoplasm in Plant Cells* in the Biology series. All the films, which varied in length from seven to twenty minutes, seemed very slow in pace in comparison with British, French and American standards. Not more than three or four subtitles were used per film, so that it would not be understandable without considerable explanation from the teacher. Only the science films seemed of exceptional quality but it was the group's opinion that it would put a heavy burden on the teacher to explain them adequately.

Under the guidance of the U. S. Military Government, German educational leaders in the American Zone are begining to take a renewed interest in visual aids.

Union of South Africa

The Union of South Africa is a great British dominion with a standard of living and educational practices comparable to those in the United States and Canada—at least for its approximately 2,000,000 white people. Interest in visual education began to develop in the middle thirties, and starting as late as this, it is but natural that the sound film plays a dominant role.

Under the leadership of Dr. E. G. Malherbe, who had studied at Columbia, the Union Department of Education established the Union Film Services at Pretoria with funds raised from the four provincial governments—Cape Province, Transvaal, Orange Free State and Natal. This organization then began to buy educational films abroad and to collect them from various sources. At the present time its Central Film Library, which circulates films to its 840 member schools throughout the Union, has approximately 13,000 reels, many of which, of course, are duplicates. As the Union Film Services has developed, an increasing part of its budget has been devoted to making films and experiments in South Africa.

The acquisition of 16mm sound projectors by schools has been considerably stimulated by the government which raised a special budget to aid schools in their purchase. Schools lucky enough to get aid were granted a dollar for every dollar the school itself raised, up to a maximum grant of £50 or $200. There are now approximately 1000 16mm projectors in South African schools.

Latin America

Latin America, including as it does twenty republics with individualities of their own, and covering a continent and a half, is almost so diverse as to defy generalization. But it is safe to say that there is some official interest in audio-visual education almost everywhere. Much of this was stimulated by American and British military and cultural organizations during the war. The 16mm film became an important channel of communication by which one people could speak to another.

Latin America is a world of contradictions and contrasts between wealth and poverty, between the ultra modern and the primitive. One can see Indians carrying goods on their own backs or on burros, while overhead far heavier shipments fly by in an airplane. So it is with educational films. On

the whole, little progress has been made as yet, although some films are being used in almost every country.

Chile

In the southern countries, particularly, interest in educational films has existed for some time. In Chile, for instance, there is the Instituto de Cinematografia Educativa (Educational Film Institute) of the University of Chile. This organization traces its origin back to 1912 when it was concerned only with lantern slides. It has been reorganized several times since, and has had a silent film period, and now a sound film period. The Institute is splendidly housed and well equipped. It is reported to have a library of about 1000 16mm films, of which about 70% are silent and 30% sound. The Institute teaches teachers projector operation, and also educational theory in the use of films in teaching. They also produce some educational films similar in character to those produced in Europe and the U. S. "*La Pesca en Alta Mar en Chile*" (High Seas Fishing in Chile) a 16mm sound film produced in 1943, for example, is good both technically and educationally. Here is the contrast: despite the existence of this advanced Institute, Chilean schools make only a negligible use of films in teaching.

Argentina

In Argentina in March 1930 there was created La Oficina de Cinematografia Escolar (Educational Films Office) whose object was to get equipment for schools and to train teachers how to use it; to suggest films that should be made; and, to suggest purchase of others in accordance with the plan of studies. This organization disappeared within the year. Then in September 1931 the Consejo Nacional de Educacion (National Council of Education) authorized the purchase of cinematographic equipment for the city of Buenos Aires, but no funds were voted and nothing was done. In 1940 a Comision de Cinematografia Escolar (Education Film Commission) was

created but soon disappeared after recommending the adoption of 16mm films. Another abortive effort was made in 1942. At the present time two organizations with impressive names exist: Oficina de Ilustraciones y Cinematografia Escolar (Office of Illustrations and Educational Films), Comision Especial de Cinematografia y Cineteca (Special Commission for Films and Film Libraries). However, according to Deputy Leandro R. Reynes of the Argentine Chamber of Deputies, and judging from observation on the spot, Argentina, despite her advanced educational system, has still made practically no use of films in teaching. Of course there have been a few individual enthusiasts in Argentina for a number of years—witness, for example, the book *Cinematografia Escolar* (Educational Films), published by Prof. Ida R. Luciani in 1937. These enthusiasts hope that Argentina will soon inaugurate an audio-visual program commensurate with her wealth, technical proficiency and high cultural level.

Brazil

The earliest work in educational films in Brazil goes back to about 1930, when the state of Sao Paulo introduced a number of 16mm silent projectors into the schools, and also acquired a series of films, but apparently this experiment was premature, for it died out completely within a few years.

In 1936 an Instituto Nacional de Cinema Educativo (National Educational Film Institute) was organized as part of the Ministy of Education by Prof. Roquete Pinto. This organization is one of the contrasts for which Latin America and particularly Brazil are famous. It would be considered first class in any country. It occupies the first two floors of a fine, modern building on a huge park-like square in the center of Rio. It is well equipped to make and to show films. It has an outstanding library of books and periodicals in the field of audio-visual education in four or five languages and from all the principal countries. There is a full-time libra-

rian. Since its foundation the Institute has made about 300 films, some silent and some sound. It also has about 400 purchased films in its film library. The purpose of the Institute is to stimulate the idea of teaching with films throughout Brazil.

Despite this wonderful Institute, the actual use of films in Brazilian schools is still only in the earliest stages, with, perhaps, the exception of the Distrito Federal — Rio and environs—but even here it is starved for films and equipment An indication of the progressive character of Brazilian thinking occurred in 1946 with the publication of "Classificaçao dos Estabelecimentos de Ensino Secundario" (Classification of Institutions of Secondary Education). In order to get official government approval schools must make a certain minimum score based on this rating scale and it is noteworthy that the use of a specified list of educational films is assigned a considerable number of points.

Other Areas

There are other important areas where films are being used, but unfortunately the writer has not yet had a chance to visit them.

Australia and New Zealand, as British dominions, have an educational film history somewhat similar to that of South Africa or Canada. New Zealand began earlier and introduced audio-visual aids much more widely than Australia, but since the end of the war Australia has been making haste to catch up.

A few leaders in China and India have long been interested in films in education, and both countries have not only imported equipment and films from abroad, but have also produced both cultural and educational films especially suited to their own needs. No large scale utilization exists as yet, but the thinking of educational leaders gives prominence to this new medium.

PART FIVE

Administrative Problems and Practices

CHAPTER XXX

PUBLIC SUPPORT OF AUDIO-VISUAL PROGRAMS

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Immediately after World War II, new programs of audio-visual instruction were established and former programs were expanded at a much more rapid rate than ever before. There are probably four main reasons for this unparalleled development in the audio-visual field: (1) the normal, gradually-growing recognition of the value of audio-visual instruction during the war period, but inability to make the desired progress because of shortages of personnel, equipment, and materials; (2) the impetus provided by the widespread and highly successful use of audio-visual materials in the training programs of the armed forces; (3) what might be appropriately referred to as the present "Renaissance" in educational philosophy and psychology, characterized by a higher-than-usual degree of critical evaluation of both educational content and method; and, (4) the increased quantity and improved quality of audio-visual materials.

The foregoing four factors are cited not only because of their significance in recent developments, but because of their implication for the audio-visual budget. *The extent to which financial support for the audio-visual program has been provided in the past and will be provided in the future depends primarily upon the degree to which audio-visual materials are recognized throughout organized education as indispensible*

and integral components of instructional materials. The problem is not so much that of alleged "lack of funds." Rather, it is one of developing the proper appreciation for the contributions which audio-visual materials can make and should be making to both content and method in the education process.

Despite the current interest in audio-visual instruction in both formal and informal education, budgets for the various programs are, with rare exceptions, woefully inadequate. There are relatively few aspects of education for which the range in financial support is as great as for audio-visual programs, and consequently in which there is more diversity in educational opportunity. Most states have minimum standards for education. There is great need for a corollary in the audio-visual field, since it overlaps all phases of the instructional program — philosophy, psychology, objectives, methods, and all subject-matter fields.

What Constitutes Adequate Budgets for Audio-Visual Programs?

Despite the fudamental nature of this question and the frequency with which it is raised, categorical answers are not available. Adequate budgets can be expressed only in terms of adequate programs; and, to date, adequate programs can be defined only in terms of either arbitrary criteria or rather subjective judgment. The major factors which make it practically impossible to define what constitutes an adequate audio-visual budget are these:

(1) Adequacy of budget is a relative matter, depending upon many factors of local significance, such as the size and type of the particular school, and the present status of the audio-visual program in the school. *Examples*: The per-pupil cost of an audio-visual program for a large school is less than for a small school in which a corresponding variety of audio-visual materials is used. The financial outlay for establishing

an adequate audio-visual program is greater than for maintenance and optimum expansion of an established program.

(2) Adequacy of budget is to considerable extent a temporal and transient matter, depending upon ever-changing conditions within the school and upon developments in the audio-visual field. *Examples*: Larger budgets are merited for expansion of the audio-visual program in those schools where greater progress is being made in good utilization by the teaching staff. The production of more and better audio-visual materials tends to justify progressively increasing budgets.

(3) Inadequate information is available upon which to base the unit of cost for determining the audio-visual budget. The most commonly accepted unit for general school expenditures is per pupil cost. However, expenditures for audio-visual instruction on this basis appear disproportionately great when the budget of a small school is compared with that of a large one. Hence, it may be desirable to use different units of cost for various broad classifications of schools according to enrollment. There are several alternatives; for example, the basis could be expenditure per classroom, per teacher, or per building.

What Are the Essentials of an Adequate Audio-Visual Program?

Rather than attempt to define an adequate audio-visual program, it seems preferable here merely to identify some of the major requirements of such a program.

(1) *Professional leadership.* Experience clearly shows that relatively little progress can be made in audio-visual instruction unless a qualified individual is assigned responsibility for the program. If the school enrollment is less than 500, a part-time director may suffice, at least in the beginning stages of the program. For larger schools, a full-time director is essential. If the organizational unit is a school system, a full-time director and staff of appropriate size, plus an audio-

visual coordinator for each building, is indicated. The time may come when classroom teachers and subject-matter supervisors will be sufficiently experienced in selection, utilization, and evaluation of audio-visual materials thru pre-service and in-service training so that the audio-visual program can be self-directed. However, until this Utopia materializes, assigned responsibility for direction and guidance is absolutely essential.

The position of audio-visual director requires competency throughout a wide range of interests, aptitudes, and abilities, because the audio-visual field permeates all areas and activities of instruction. The degree of success of the audio-visual program depends almost entirely upon this one individual. He is charged with responsibilities of tremendous variety, ranging from such simple technical activities as the training of teachers in the operation of equipment, to such involved matters as actively assisting in the development of units of study to incorporate the best available teaching materials. He must work in close cooperation with all members of the professional staff—teachers, subject-matter supervisors, curriculum specialists, and administrators. Therefore, a substantial part of the audio-visual budget must be allocated for the director's salary in order to obtain a well-qualified person.

(2) *Organizational status.* A close parallel to the necessity for professional leadership is the decisive advantage of establishing separate, special organizational facilities for the audio-visual program. The audio-visual department may be organized to serve a school, school system, county, or larger unit. Many factors enter into determining the exact area to be served. However, one of the most important considerations is that of locating the department so that it is conveniently accessible to the teachers in the area. The audio-visual department is far more than a place in which to store and from which to distribute equipment, materials, and supplies. It is a teaching materials center—an audio-visual laboratory—to which teach-

ers and other interested persons can go to preview and audition materials and to obtain information and guidance on all kinds of audio-visual problems.

A recent comparison on a national basis between school systems with and without audio-visual departments reveals many interesting quantitative and qualitative differences, all of which clearly point up the need for audio-visual departments. In those school systems with audio-visual departments, 33 percent of the elementary teachers use films "regularly," about 80 percent of them being used in the classroom. In school systems without audio-visual departments, only 11 percent use films "regularly," and only 60 percent of the films are used in classroom teaching situations. Self-appraisals of the adequacy of the respective audio-visual programs in school systems with and without special departments indicated dissatisfaction with current programs in the ratio of 55 to 80 percent.[1]

(3) *Classroom Physical Facilities.* One of the most urgent problems confronting the audio-visual field is that of assuring adequate physical facilities for the audio-visual program. Since audio-visual materials are an integral part of the learning environment, each and every classroom should be equipped for their use. To achieve this, new buildings must be planned and old buildings must be modified to provide the necessary physical accommodations. In planning new buildings, consideration should be given first of all to some of the more general aspects of classroom design, such as floor dimensions and seating arrangements which will facilitate more efficient instruction both with and without audio-visual materials. In both new and old buildings, several additional needs must be met. *Convenient* facilities must be provided for darkening and ventilating the rooms, and for obtaining electrical current to operate the audio-visual equipment. Accoustical treatment should be regarded as essential for new buildings and highly desir-

[1] National Education Association, Research Division, "Audio-Visual Education in City-School Systems." *Research Bulletin* 24; 145-50, Dec. 1946.

able for old ones. In view of the great expansion anticipated in the use of audio-visual materials, the possibilities of designing special audio-visual equipment for permanent installation in the classroom, and other likely but indefinite developments in the audio-visual field, it is of utmost importance that the architect's plans for new school buildings be based upon the greatest possible foresight in this regard. It should be emphasized that the alternative for planning new school buildings to accommodate the audio-visual program adequately is subsequent modification of the buildings, probably at a cost twice as great and with a result only half as effective.

(4) *Equipment and materials.* As stated previously, objective information is not available as to what constitutes adequate audio-visual equipment and materials for schools of various sizes and types. However, there are a few general principles to which reference should be made because of their bearing on the budget. (a) The program should be based upon a broad view of the audio-visual field—a wide variety of equipment and types of materials should be included. (b) Materials should be selected upon the basis of the contribution they can make to the educational objectives of specific units of study in various subject-matter fields. This does not mean, however, that close integration in the various conventional courses of study is the only criterion. Audio-visual materials are destined to exert considerable influence upon the slow-to-change, textbook-centered curriculum. The selection of audio-visual materials depends upon so many factors that it is difficult to make even broad generalizations in regard to the matter. One of the most fundamental but most difficult problems is that of determining which specific materials of the several different types would contribute most to the curriculum of a particular school. (c) The less expensive materials, especially those which are most basic to the various courses of study, *i.e.*, materials for which there is a relatively great and frequent need, should be deposited within each school building so that the teachers will

have ready access to them for immediate preview and use. These materials include filmstrips, 2"x2" slides, recordings, and other materials for which the unit cost is relatively low. (d) In smaller schools and school systems, the ratio between purchases and rentals of materials for which the unit cost is relatively high—as with motion pictures—depends primarily upon the frequency of use of a particular subject. In the largest school systems, a substantially greater part of the budget for audio-visual materials is expended for purchases rather than rentals. In general, the ratio between the budget for purchase and rental of audio-visual materials depends upon the size of the school or school system.

(5) *Distribution facilities.* The success of the audio-visual program depends to a considerable extent upon the materials being made available at the exact time they are needed, often on short order. Teachers cannot be expected to assume responsibility for performing this task. As previously indicated, the problem can be avoided in part by making available a permanent library of the relatively-inexpensive materials in each school building, as is already the case with books, maps, blackboards, globes, and laboratory equipment. In addition to the educational advantage of providing each school building with a library of the less-expensive materials, there is an economic factor to be considered. In the long run it may actually cost less to provide in each building a basic library of the simpler types of most frequently-used materials than to assume the cost of handling, servicing, and distributing such materials from the audio-visual department. There remains the problem, however, of providing the facilities for distributing the audio-visual materials for which the unit cost is relatively high. Also, there is the problem in some school systems of distributing audio-visual equipment until such time as the individual schools can be provided with adequate equipment. Therefore, efficient transportation facilities which pro-

vide frequent, routine, and subject-to-call distribution and collection service are essential.

What Is the Status of Public Support for Audio-Visual Programs?

The material to which reference is made in this section is taken largely from "Audio-Visual Education in City-School Systems."[2] A report of status such as this merely indicates current practice which is usually not *ideal* practice; however, it does provide a point of reference from which *better* practice may be developed. This study was based upon information received from 1037 school systems in cities of over 2500 population. Approximately one-fourth of the teachers and pupils in the nation were represented in the study. The 1945-46 expenditures for audio-visual instruction were reported by 1011 cities. The aggregate amount of these expenditures was $2,027,258, or an average of $2,005 per city. Distributed on a per pupil basis, the 1945-46 expenditure on audio-visual instruction for all the cities which reported was 35 cents per pupil—an amount which obviously is quite inadequate.

The following current status account involves several comparisons, verbal and graphic, between expenditures in school systems with and without audio-visual departments. *It is extremely important to keep in mind that these comparisons do not reveal the great differences in scope and quality of the programs of the cities within each category, nor the nature of the differences for cities with and without such special departments.* The difference in cost is considerable; the difference between the educational services provided is much greater.

Table 1 breaks down the aggregate expenditures for various groups of cities according to the population.[3]

2. *Ibid.* p. 129-72.
3. *Ibid.* p. 159.

TABLE 1

AGGREGATE AND AVERAGE EXPENDITURES FOR AUDIO-VISUAL EDUCATION IN 1945-46 FOR 1011 CITIES

Group	Number of cities reporting	Aggregate expenditure	Average expenditure per city
1	2	3	4
Having an audio-visual department:	162	$1,409,751	$ 8,702
Over 100,000	46	1,023,355	22,247
30,000—100,000	40	206,668	5,167
10,000—30,000	36	115,755	3,215
5,000—10,000	25	39,186	1,567
2,500—5,000	15	24,787	1,652
Having no audio-visual department:	849	$ 617,507	$ 727
Over 100,000	12	29,627	2,469
30,000—100,000	70	159,078	2,197
10,000—30,000	188	161,577	859
5,000—10,000	261	148,400	569
2,500—5,000	318	118,845	374
All cities reporting their audio-visual expenditures	1,011	$2,027,258	$ 2,005
Over 100,000	58	1,052,982	18,155
30,000—100,000	110	365,746	3,287
10,000—30,000	224	277,312	1,238
5,000—10,000	286	187,586	656
2,500—5,000	333	143,632	431

In cities with special audio-visual departments, the per pupil cost ranges from 32 cents in cities of the largest population to $1.68 per pupil in the smaller cities. In school systems without audio-visual departments, the range is from 11 to 43 cents. For all cities included in the report, the average expenditure per pupil in each population group is between 30 and 50 cents. Figure A shows the distribution of the 1945-46 expenditures on a per pupil basis for the various groups of cities.[4]

FIGURE A- Per pupil Expenditures on Audio-Visual Education in City School Systems, 1945-46

The per pupil expenditures for individual cities were also compiled in the form of frequency distributions for all the cities and for cities with and without special departments. The median expenditure for the entire group was 33 cents. Table 2 shows this method of analyzing the budget figures.[5]

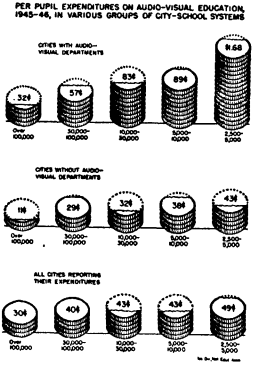


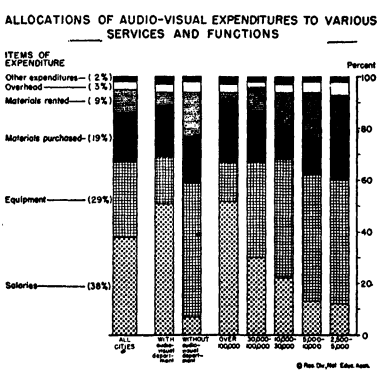
TABLE 2

FREQUENCY DISTRIBUTION OF THE PER PUPIL EXPENDITURES OF CITY-SCHOOL SYSTEMS, 1945-46

Expenditure level per pupil	Number of cities: Entire group	Cities with audio-visual departments	Cities without audio-visual departments
$2.00 or more	19	9	10
1.75—1.99	8	3	5
1.50—1.74	11	4	7
1.25—1.49	30	9	21
1.00—1.24	47	19	28
.75—.99	60	13	47
.50—.74	132	26	106
.25—.49	286	48	238
.01—.24	368	28	340
0	50	3	47
Total	1,011	162	849
Median per pupil expenditure	33¢	52¢	29¢

In reporting their 1945-46 expenditures, respondents gave an "item distribution" of the amounts. The categories consisted of: (a) salaries, (b) equipment, (c) materials purchased, (d) materials rented, (e) overhead expense, and (f) other expenditures. In school systems with audio-visual departments, approximately half of the funds were budgeted for staff salaries. In cities without audio-visual departments, about half the audio-visual budget was used for equipment. In both instances, the amounts spent for the purchase of audio-visual materials accounted for approximately 20 percent of the total budget. However, since the cities with special departments had larger total outlays, including substantial sums for staff salaries, this means relatively larger *actual* outlays for materials in the cities with audio-visual departments, even when the percent spent for materials was the same. Figure B is a summary of the item analysis for each group of cities and for all cities included in the study.[6]

FIGURE B



4. *Ibid.* p. 161
5. *Ibid.* p. 160
6. *Ibid.* p. 162.

In regard to expenditure trends for audio-visual instruction, the respondents were asked whether the 1945-46 expenditures were: (a) considerably higher than usual, (b) about the usual annual outlay, or (c) considerably lower than usual. In 55 percent of all the cities represented, the 1945-46 expenditures are stated to have been about the usual annual outlay. In 38 percent, they were somewhat higher than usual, and in 7 percent, lower than usual. Table 3 indicates the nature of these expenditure trends.[7]

TABLE 3

RELATION OF 1945-46 EXPENDITURES ON AUDIO-VISUAL EDUCATION TO THE CORRESPONDING EXPENDITURES IN OTHER RECENT YEARS

Group	Number of cities	Percent of cities in which 1945-46 expenditures were: Considerably higher than usual	About the usual annual outlay	Considerably lower than usual
1	2	3	4	5
With audio-visual department	162	56%	40%	4%
Without audio-visual department	849	35	57	8
Over 100,000	58	53	42	5
30,000—100,000	110	44	47	9
10,000—30,000	224	42	52	6
5,000—10,000	286	37	56	7
2,500—5,000	333	32	60	8
All cities reporting	1,011	38%	55%	7%

Even though the 1945-46 expenditures were somewhat higher than in other recent years in a substantial percent of city-school systems, an increase of approximately nine percent was anticipated for 1946-47.

What Are the Basic Principles of Budgeting for Audio-Visual Programs?

Among the principles to be observed in developing a justi-

7. *Ibid.* p. 163

fiable budget for audio-visual instruction, the following seem especially significant:

(1). *Financial support for the audio-visual program should be derived entirely from public taxation.* Audio-visual materials are as legitimate and defensible a part of the curriculum as any other instructional materials. Their purpose is to do more of that which the school is already doing, and to do it better, plus making it possible to expand the horizons of the curriculum. Therefore, the source of funds for the audio-visual program should be the same as for any other official school expenditure.

However, in some localities, where the audio-visual program is financed largely by voluntary contributions from non-tax sources, it is not at all uncommon to find schools in which such casual, well intentioned, but nevertheless basically unsound methods of financing account for half or more of the audio-visual expenditures. It is one thing to accept such contributions gratefully, regarding them as temporary substitutes for well-deserved budgetary appropriations, but it is quite another matter to expect the audio-visual program to attain its proper official status under such haphazard provisions for financial support.

2. *Substantial funds are required for an adequate audio-visual program.* It must be acknowledged, without apologies, that an adequate program is impossible without adquate funds—substantial funds. The issue of cost must be faced squarely. The real problem is not whether the school *can afford* the audio-visual program, but rather whether the school *can afford not* to have the program. The necessity for teaching more and more within the time period that children and youth attend school; the futility of trying to provide meaningful learning experiences without *showing* that which cannot be adequately expressed or understood thru words alone; the tragic neglect of the paramount responsibility for building better citizens of the nation and of the world by instilling

desirable attitudes and appreciations thru dramatic, emotionally-derived learning—these, too, are real problems. They probably can be solved best thru the generous use of audio-visual materials. Their solution is imperative regardless of the cost in dollars and cents. Actually, however, the cost of an adequate program in comparison with the total cost for operating the school system is relatively small. The ratio between these two costs for the average school system, on a per pupil basis, is about 1 to 500. Also, it should be noted that, on a long-term basis, the added efficiency and effectiveness resulting from the use of audio-visual materials can go far beyond merely balancing the budget in a monetary sense. In the great majority of school systems, failure to provide adequate funds is but a reflection of failure to recognize the indispensibility of audio-visual materials.

"Standards" for the audio-visual program might well be conceived in terms of three broad degrees of excellence: minimum programs, adequate programs, and desirable programs. Because of the difficulties of defining audio-visual programs in terms of monetary standards, it is practically impossible to express catagorically the unit cost on any basis, except in a rather arbitrary and subjective manner. However, as a frame of general reference to provide common denominators for comparative purposes, the writer is inclined to believe that, at the present time, the necessary per pupil expenditure per year *for audio-visual materials only* is approximately as follows: $1 for a minimum program; $3 for an adequate program; and $5, or more, for a desirable program.

(3). *Assurance of continued financial support should be provided for the audio-visual program.* There should be as much assurance as possible of continued financial support for the audio-visual program in order that long-term plans can be made with reasonable certainty that they can be followed thru. The purpose of *any* long-term budget plan is to provide for maintenance and normal expansion of a function or activity

thru stability of financial support. However, such plans are especially important for the audio-visual program, because of the extraordinary difficulties which otherwise will result from creating a demand for materials and services and then suddenly finding it impossible to fulfill that demand.

The long-term budget should indicate only the general direction in which it is believed desirable to develop the audio-visual program. To be of any considerable value, it must be based upon carefully thought out and fairly detailed over-all plans. This means that a course must be charted. *The goal should be that of shifting as rapidly as possible from provisions for minimum standards to desirable standards.* Unforseen needs of the local program and future developments in the general audio-visual field may necessitate revision and sometimes re-thinking of the entire plan. As a matter of good policy, the long-term budget should be revised annually. Also, in the case of an audio-visual program which has been in existence for several years, a brief historical account of its development should be included with the budget schedule to provide the necessary perspective for evaluation by school board members and others concerned. In the early stages of development of an audio-visual program, it may be desirable to develop a 2-year budget plan. It is further suggested that the subsequent long-term budgets be developed for 5-year periods. Unlike an annual budget, the educational program is not a matter of one-year cycles.

(4). *The audio-visual budget should consist of two major parts: the educational plan, and the expenditure plan.* Preparation of a budget for the audio-visual program involves, of course, the ability to anticipate as accurately as possible the needs for a given period in the future. These needs must be translated into means and services and into cost items for such means and services. In practice, this resolves itself into the prodecure of preparing detailed lists of items under such headings as the following: personnel; equipment; materials, both

rentals and purchases; modification of classrooms to provide for the use of audio-visual materials; distribution facilities; maintenance and repair of equipment and materials; contingency fund; supplies; insurance; preparation of bulletins, catalogs, and forms; and local production, if any. The section on the educational plan should attempt to justify the need for each item in the local program. The section on the expenditure plan should list the cost of each item. In both the educational plan and the expenditure plan, it is desirable to include interpretative explanations, anticipating insofar as possible the questions likely to be raised by school board members. Also, it may be advantageous to include some graphic explanations. For example, a line graph comparing the total expenditures for the school system with expenditures for the audio-visual program may be quite effective in illustrating the justification for a larger audio-visual budget. Similarly, a graph illustrating the unit cost of equipment and materials in terms of their anticipated period of service may be advantageous.

Two items are indicated above as integral parts of the audio-visual budget because of their indispensibility to the audio-visual program: (a) audio-visual equipment, and (b) modification of classrooms to accommodate the audio-visual program. However, in some school systems audio-visual equipment properly should be charged to the budget for general instruction, and it is fairly evident that expenditures for modification of classrooms usually should be charged to the budget for capital outlay. Therefore, local budgetary practices should be studied in order to determine whether audio-visual equipment is charged to the budget for general instruction, and the cost of modification of classrooms to capital outlay, or whether these items should be included in the audio-visual budget. The latter arrangement is suggested only in case no other provisions can be made for these expenditures.

In estimating the budgetary needs for an audio-visual

program which is just getting underway, a survey of equipment and materials and other audio-visual property should be made to determine what is already available in the school or school system. The results will provide a basis from which to proceed in estimating additional needs. Also, the less tangible but nevertheless extemely important functions, such as aggressive and constant efforts to improve the utilization of materials and to effect good administration and supervision of the audio-visual program, must be provided for in the budget. There is some evidence to the effect that the ratio between the expenditure for audio-visual materials and the expenditure for all of the various facilities and services necessary to obtain good utilization of the materials is approximately 1 to 3. Since it is especially difficult to anticipate developments in the audio-visual field and demands for materials and services by the teaching staff, the contingency fund should be rather large, probably 10 percent of the total budget.

(5). *Proportionately more funds should be provided for a small school than for a large school.* The budget for small schools must be proportionately larger than for large schools for programs in which a corresponding variety of audio-visual materials is used. Very little information is available upon which to base recommendations for effecting more equality of programs in this regard. Upon the assumption that every child is entitled to equal educational opportunities, this problem is indeed serious. For the immediate future, a quantitative and qualitative compromise in the program for the smaller school and school system appears to be the most realistic approach, but certainly is not a fair solution.

(6). *The main criterion of budgetary increases for expansion of the audio-visual program should be the rate of progress in good utilization.* Good utilization provides a significant measure of justification for increasing the funds for the audio-visual program. This mater obviously has a special bearing upon the development of long term budgets because of

the necessity for anticipating changes in the scope and quality of utilization during the projected time period. This, in turn, depends very largely upon the time and effort which the director and his assistants can devote to this fundamentally important matter.

What is the Outlook for the Future?

A necessary prerequisite for adequate financial support is an aggressive, continuing program of interpreting the audio-visual program to the public. This can be accomplished thru such media as the local newspaper, radio, special bulletins to the parents, and audio-visual exhibits during school visitation. The emphasis should be placed upon *what the audio-visual program is doing for the child;* in other words, the publicity program should be child-centered.

Audio-visual instruction is not on trial. Its values have been acclaimed by everyone who has been sufficiently interested to learn what it is all about. The circle of appreciation is rapidly extending. Eventually it will encompass the adult population, which controls the purse strings. In the final analysis, it is the public which will make it possible to define what constitutes an *excellent* audio-visual program.

CHAPTER XXXI

THE STATE FILM PROGRAM

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It might properly be said that virtually every state supports a film program to some degree. Few indeed are the states which do not, through public funds, provide at least a few films and some projection equipment to certain of their institutions engaged in some phase of education. It is probably equally safe to say that few if any states have, through state agencies, planned for this infiltration of their institutions. Rather, in most cases, some individual or small groups have followed the nation-wide trend, and directed a part of their attention to instructional materials along the motion picture channel.

Whatever the origin of state-wide film interest, the outcomes have certainly been divergent, and the number of our states which maintain film programs under coordinated plans within their boundaries remain relatively small. The same cannot be said, however, for states in which interest in promotion of a film library is stirring, or where plans for such an organization are well under way.

In this chapter, then, it is proposed to examine the state film program as it now exists in several regions, with special attention to the means for its support, and to point out trends which are being followed as more states move in the direction of state-wide film sponsorship in some form or

another. The discussion will be attempted with an unbiased view, although an attempt will be made to evaluate present practices and trends in terms of school needs and film utilization practices. Many generalizations will be hard to make, and difficult to support. As a matter of fact, the whole problem might be rather lightly dismissed if all schools had adequate funds, adequate supplies of good films on which to draw, and above all, teachers adequately trained in selection and use of these materials. Such not being the case, and the discernible future promising no such quick solutions, the problem resolves itself into one complicated not only by the factors of money, materials and trained personnel, but by a multitude of other factors originating in these three.

Decentralization vs. Centralization

Were it possible to establish some standard by which population centers could be designated, and to guarantee the means to permit film libraries to function in each of those centers, it is unlikely that state boundaries could contain the exact outlines of the library service areas. Alternating concentration and scattering of populations, as well as wide variation in the ability to provide financial support, pose almost as great a divergence from neat geographical designations within states themselves. And these physical hurdles are transcended by an even more potent aspect of the total problem — the needs of instruction within the geographical unit.

Proponents of the local film source argue, with logic, that only those persons closest to the community can indicate the paths which school programs will take, even where strictly defined courses of study are directed by higher authority. They have a point. Most of us would agree that an ideal situation would place every useful film at the teacher's finger tips, in her own building if possible, certainly in adequate supply within her own system. Cost alone makes that prohibitive for the majority of teachers, even in large city systems. Retreat

from such a position leads eventually to the regional film library, whatever variation in pattern occurs along the way, again speaking for the majority. Some degree of centralizing of the library function is compelled by monetary reason alone.

Financial Support of State Film Libraries

Four principal sources of funds have been tapped for the purpose of establishing film service to schools on the state level. In this respect, the state film libraries are not different to any degree from local, county, regional, and institutional centers for distribution.

Public funds have been drawn on to furnish two of these sources. In one notable case (Virginia) the State Assembly appropriated the basic sum directly for the purpose of establishing a state-wide film program. In other cases, state appropriations made available to higher institutions and to state departments of public instruction have been used at least for initial financing purposes.

Aside from direct appropriations, the principal channel of public funds into film libraries has been subscriptions or payment by schools and institutions using the film service.

The bases for such payments vary almost as widely as the number of cases where they exist. In at least one instance, service from a state film library has been supplied to any school which would purchase and deposit a film therein; in others, the amount of payment is determined by the size of the school requesting films on loan; and in still others, charges are assessed on the basis of the number of films loaned.

A quite different type of financial backing is provided in another case (Nebraska) where a collaborative effort toward a state-wide film program is under way. Funds for this movement were supplied initially in part by the State, and in part through the assistance of a philanthropic foundation and the cooperation of film producers.

Unique in the financial respect is the state film library

of Ohio, whose income is received, for the most part, from license fees assessed on all motion pictures exhibited within the state. This income, separate from tax funds, has permitted Ohio schools to obtain films without charge from rental, for a number of years.

A partial list of state-sponsored film programs not mentioned above shows further interesting adaptions of basic state support, to meet situations peculiar to each region, and to integrate existing distribution facilities into the development of new programs. California, for example, expends its support outside of grants to state institutions and a rather generous support of local libraries in the area of coordination, promotion, teacher training, and general development, through its Division of Audio-Visual Education. In Montana, the State Department of Public Instruction houses and administers a film library, but depends on contributions from its users for most of its active support and does not purport to undertake any work of a developmental nature. Through its State System of Higher Education, Oregon offers a state-wide film service, plus inservice training activity, as a function of its Extension Division. State support maintains its housing, personnel and field service, with funds for materials depending, again, largely on fees from users. Schools in Indiana have been served for some time by film service from the State University. At present, this source of materials is being augmented by a fund-matching plan whereby schools will receive state aid for the purchase of equipment and supplies, which will include films and projection equipment for local libraries. Other funds are available for projector maintenance and film rentals. Beginning with a central film service in the State Text Book Division, Georgia is moving toward a system of regional film libraries for the use of schools. No rentals are charged, and even return postage is supplied. Louisiana provides similar support for regional film libraries, and in addition, encourages the development of local film libraries by as-

sisting in the purchase of films, from unexpended balances remaining from funds allocated to local schools for purchase of general school supplies. Somewhat different in execution, though still bearing the regional-division stamp, is the plan in Arizona where state funds are being used to further the growth of cooperative film libraries at teacher-training institutions.

Several other states are moving (in 1948) toward state-sponsored film plans of varying breadth, and with different ends in view. Connecticut, Arkansas, Oklahoma, and Texas have proposed legislation to originate or augment their present facilities. Michigan has, through its State Department of Public Instruction, proposed state support for a broad program, on a continuing basis, for financing a distribution system, and providing assistance in teacher training and development of local program. A plan of the same general nature is in a formative stage in the State of Washington.

Financing the State Film Program — A Summary

Most state programs are too new, or have yet failed to attain size enough to provide measurable trends for evaluation. However, there are a few, noticeably those of Ohio, Oregon, Indiana, California, and some others, which point to some rather easily discernible trends and outcomes for most such programs.

Very early in the film program, mass handling on accurate schedules becomes a problem. As more and more hundreds of scheduled film showings become dependent on the uncertainties of public carriers—and with this growth, more and more teachers become insistent on accurate timing, longer periods of use, wider varieties of materials, and higher quality of films—the single film library becomes less likely to be able to meet all demands. Decentralization, to the point that local units, the city, the county, or groups of neighboring towns become points of supply, is a logical outgrowth.

However, the basic problem of a central state library, the

high cost of films, will continue to work toward single centers for distribution for periods of early growth. State support is virtually the only answer, short of an unlikely endowment by a philanthropic organization, for very rapid film library growth. And state support, directly or indirectly, must continue to pay at least a major share of the cost when regional, city, and county centers are instituted.

Scope and Functions of State Film Programs

Quite aside from the establishment of state film libraries are a number of other aspects of state-wide film programs which should be considered in their development; and in terms of lasting values, and the long range measure of the effectiveness of films in education, these aspects are probably more significant than the distribution program.

Reference has already been made to the programs of Michigan, California, and Washington. The objectives of the film plans in those states, as they are laid down in practice or in planning, are broad. Many other state programs could also be cited. Wisconsin and Connecticut, Virginia and Minnesota, Tennessee and Pennsylvania, to name but a few, have in reality similar motives, and similar aims in their school programs for educational films. Breadth in all of these programs lies in the fact that long-range ends are in terms of learning outcomes, and these outcomes are stated in terms of teacher skills. Perhaps the greatest contribution of the state film program will finally be found to have been this breadth of view. And there is considerable probability that the measure of that contribution will be the extent and effectiveness of teacher training in the use of the educational film.

The genesis of most of the present film programs has been in state teacher training institutions, and it is interesting to notice that many of the more recent developments which have originated in other units of the state governments, have turned toward those institutions as logical centers for new

services. Detailed treatment of the functions of these institutional centers is within the scope of other chapters of this work, but is probably well to point out the fact that, aside from credit for pioneering in the field and establishing aims which have a base of effective teaching, the institutions represent transition stages for both materials and methods, between the state and local film programs. The administrative group or head at the state level gains through institutional orientation, a ready access to the teaching field and the local school, and a second echelon in state administration is automatically set up.

There is an important factor to consider in the light of the rather close integration of institutions into the operating plan of so many state film programs. It is not true that state departments of public instruction have little by way of authoritarian or other channels through which they can reach the public schools readily, and even fewer channels to the adult field, the service club, granges, lodges, and other organizations? True, the state department will generally appear in an important light at budget time, or during legislative terms, but this importance dims during intervening periods. Again, by virtue of extension services, field staff functions, or general public service functions, the educational institutions have continuing contacts with all of those whom the state film program must reach. Thus, educational institutions are important elements in the state film program not only because of their connections with teaching and teacher-training, but because they represent functioning and functional centers for film distribution, field services for promotion and inservice instruction, and generally, locations where preservice training of teachers is centered.

Lacking these outlets, the state department of public instruction must use institutional channels, or become only a distributing center and an information agency. It is interesting to note that few state film programs to date have turned

to county centers as regional film distributors, and as sources for field service and teacher-training in film utilization methods.

Some Administrative Practices

There is about as little standardization in state administrative practices and functions as in methods of handling state funds for the support of film programs.

In California, for example, the state program is largely confined to consultant, advisory, and promotional functions. These follow a variety of bents, from sponsoring courses for teachers in the audio-visual field, to budgeting assistance and help in selection of materials and equipment. It might also be mentioned that California's is not a program for films alone, by any means.

On another hand, the State of Montana does sponsor a film program only, and confines its function to distribution alone. The Ohio plan is similar in development, though much larger, and the central library with its branches does supply some other materials.

A plan such as that of the State of Virginia provides distributive services and educational services as well. Distribution is decentralized through a group of regional libraries, plus a system of fund-matching for the support of film collections in larger population centers. Teacher-training institutions are integrated into the program, both for distribution purposes and as centers for preservice and inservice training. The state office serves to coordinate the total program in all centers and to promote it on a basis of equal opportunity throughout the area. It is interesting to note here, in the only present instance of advanced authoritarian planning, that there were "approved" lists of films for purchase with state funds, and likewise, "approved" lists of projection equipment. This is being corrected, but the implication of a danger in single-centered control of an element of instructional media is plain.

At the time of writing, the proposal for the State of

Michigan might serve equally well as a summary and an evaluation of state film programs to date. The principles involved appear to represent a balanced selection of the reasonably successful experiences of many other plans. Its suggested scope is such that films can function in their proper place in a total instructional materials field. Local needs and local programs are stressed. Financing is based on a continuing state subsidy, for permanency. Under the Michigan proposal, the largest share (40%) of state funds would go to schools for local libraries and services, and the second largest (35%) for general purchase of materials, and to subsidizing and building a distribution system. The remainder of the state subsidy would go (15%) to expanding the effectiveness of teacher-training in the audio-visual field, and (10%) to the activity of a State Division of Audio-Visual Aids in the Department of Public Instruction.

Also, the principle of state-support is based and maintained on a per-pupil-per-year index. Local needs in terms of both materials and services are recognized. Teacher-training in the field is supported through educational institutions. The desirability of a state coordinating activity is recognized, but not to such a degree as to dominate the areas where effective film use must prove that state support is justified.

CHAPTER XXXII

THE UNIVERSITY OR COLLEGE FILM LIBRARY

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A study of college and university film libraries divides itself naturally into considerations of their past, present, and future. This chapter, therefore, deals with the history and growth of these agencies, their present activities, and lines of needed development.

History

Colleges and universities in the United States have undertaken responsibilities with films as early as 1914. At least twelve university and college film libraries existed in 1924, and at least twenty-five in 1936.[1] A survey,[2] undertaken as

[1] Nobel, Lorraine. "Distribution—An Aid to Visual Aids," *Educational Screen*: Vol. XV No. 6, June, 1936.

[2] In this survey the writer compiled a list of college and university film libraries from information obtained from the following sources:

a. Educational Film Library Association, 45 Rockefeller Plaza, N. Y. C.
b. *Educational Film Guide,* H. W. Wilson Co., New York City (1936-1946).
c. *Audio-Visual Handbook,* E. C. Dent, Society For Visual Education, 100 E. Ohio Street, Chicago (1946)
d. *Preparation and Use of Visual Aids,* Haas and Packer; Prentice-Hall, Inc., New York City, (1946).
e. *One Thousand One-Bluebook of Non-Theatrical Films,* Educational Screen, Chicago (1936-1947).

A questionnaire was sent to one hundred thirty-eight universities and colleges requesting information concerning their film libraries and concerning other institutional film libraries in their states. Replies were received from seventy-five institutions, sixty-five of which provided usable data.

For purposes of the survey a *film library* was considered as any collection of films (without regard to numbers) available for either general or limited distribution.

a part of this study, indicates that there are today approximately one hundred forty colleges and universities which maintain film libraries of various types. These types include the regional or state distributing center, the department which serves the campus only, and the unit responsible for the promotion and sale of films produced by the institution.

Despite the early beginnings of university and college film libraries, their growth has been relatively slow until 1937. Sixty-two universities and colleges in the present survey indicated the years in which their film services were established. This information is shown graphically in Figure 1, revealing a very slow development for a period of twenty years. During the last ten years, however, there has been a sharp increase in the number of film libraries established. This general picture of growth is considered fairly accurate even for the total number of such agencies.[3] However, in a picture of the development of all existing university and college film libraries, the distinct increase during the last decade would be even more pronounced than shown in Figure 1.

The retarded growth of university and college film libraries prior to 1937 and the more rapid development there after have paralleled the progress made in many other aspects of the audio-visual movement. The technical refinement of the film itself and of projection apparatus, the evaluation of the film as a teaching tool, the acquisition of projection equipment by schools, the production of quality films, and the general attitude of educators toward the use of the film are factors which have influenced the development of university and college film libraries.

Many of the early film libraries built collections of 35-millimeter silent motion pictures. With the advent of the 16-millimeter film, their collection gradually changed to films

3 A further check on the seventy-eight institutions which did not furnish exact information concerning the inception of their film libraries indicated that at least sixty of these libraries were established after 1937.

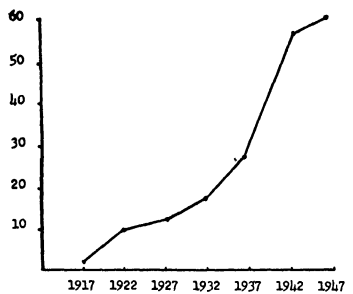
in the 16-millimeter width. A few of these film libraries added 16-millimeter sound-on-disc materials during that brief period of experimentation with sound as an added element. Sound-on-disc collections, of course, gave way to sound-on-film. In the early thirties the number of creditable teaching films was relatively small. The concept of the basic curriculum film was just emerging. Projection equipment in the schools was not abundant. Important evaluative research studies of the film as a teaching tool were just being completed. Many educators were not favorably disposed to the classroom film. These factors naturally affected the growth of college and university film libraries both in the numbers of such agencies and in the character and extent of their offerings.

Since 1937, many of the retarding factors have been eliminated. By 1935 the mechanics of 16-millimeter sound film projection were perfected. After 1937, film projection equipment became more generally available. More creditable films pointed to the curriculum of the schools were produced. World War II provided a practical test of the potentialities of the training film, "sold" educator and layman alike on audio-visual tools, stimulated the entry of new film producers, and provided literally hundreds of quality films for the educational field. It is not surprising that the film library curve (Figure 1) begins to soar during this period.

EDITOR'S NOTE: It is interesting to compare the growth of university and college film libraries reported here by Mr. Lemler with the historical development of the educational motion picture (see Chapter I "The Genesis of the Educational Film"). It is not too difficult to see that educational institutions were waiting to take advantages of the educational film, but were awaiting only the necessary technical improvements which would permit easy handling of the motion picture in school situations.

FIGURE 1.

NUMBER OF UNIVERSITY AND COLLEGE FILM LIBRARIES BY YEARS AS REPORTED IN SURVEY



Note: Numerical data on which Figure 1 is based:

1917	2
1922	10
1927	12
1932	17
1937	27
1942	59
1947	65

The history of university and college film libraries, then, is the history of the educational film itself from the early days of experimentation and refinement, of limited production and use, to the present era of increased production, widespread interest, and general acceptance of the film as a teaching tool. The growth of college and university film libraries not only reflects the progress of the whole educational film field, but suggests that these libraries have, to a considerable degree, contributed to that progress. There is evidence, as will be shown in the discussion of their present activities and stated future plans, that the college and university film libraries are beginning to realize their full responsibilities of professional leadership in this field. Therefore, in terms of

the pattern of their growth and in terms of their planned programs of expanding service, the trend seems to be *toward* college and university film libraries, not away from them.

Present Status

In the present survey sixty-five university and college film libraries replied to questions concerning their primary function; territories served; kinds of audio-visual materials distributed; size of their libraries; character of their clientele; sources of funds; size of budgets; allocations of budget; kinds of campus and off-campus services; teacher training activities; and lines of administrative responsibility. The information collected is compiled and interpreted here in order to indicate the status of film library work and to suggest lines of needed development.

What are the types of university and college film libraries according to function and area of service? Information concerning primary function and area of service was obtained by questionnaire and from other sources[4] for seventy-seven film libraries maintained by universities and colleges. Table I is a summary of this data. Six per cent of these libraries confine their services to their own university or college departments, providing these departments with film materials for instructional use, for teacher-training, or for research purposes. Another kind of university of college film library is the "producer-distributor," primarily concerned with the promotion of films produced by the institution.[5] This group, like the first, is relatively small.

4 From the catalog files of the Audio-Visual Education Center, University of Michigan.

5 Yale University Press; Rutgers Films.

TABLE I.

KINDS OF UNIVERSITY AND COLLEGE FILM LIBRARIES ACCORDING TO PRIMARY FUNCTION AND AREA OF SERVICE*

Kind of Film Library	*Number*	*Per Cent*
1. Film libraries which serve the institution only.	5	6
2. Film libraries which "produce-distribute."	4	5
3. Film libraries which serve more than one state.	19	25
4. Film libraries which serve one state only.	26	34
5. Film libraries which serve part of a state.	23	30
TOTAL	77	100

By far the largest category of film libraries, eighty-nine per cent of the number for which definite information was obtained, is made up of regional or state distributing centers. It seems expedient to classify these libraries according to the kind of territory which they serve. Thirty-five per cent of the reporting film libraries indicated that their service was limited to one state. Thirty per cent of these libraries indicated a part of a state as their area of service. Twenty-five per cent designated service territories of several states. The university extension division libraries comprise the greatest number of those distributing centers which serve one or more states. The film libraries in the state teachers colleges serving contiguous territories comprise the largest percentage of those centers which serve a part of a state. Among this state teachers college group a recent development of interest and significance is the establishment of film libraries in which films for distribution to the public schools are deposited by the state department of education as a part of a state-wide audio-visual program.[6]

* This classification is made merely to point up the primary function of existing libraries and does not imply that regional or state distributing centers produce no films for sale, or that they do not serve departments of their own institutions.

6 Notably in the states of Virginia and Louisiana.

THE UNIVERSITY OR COLLEGE FILM LIBRARY

How large are the university and college film libraries? Forty-eight institutions provided information concerning the number of prints in their film libraries. A distribution of these figures reveals an exceedingly large range, from 5 prints to over 7,000. The median point of this distribution is 500 prints. Forty-one per cent of the reporting institutions have less than 500 prints in their film libraries; forty-eight per cent have more than 500 prints. Forty-two per cent of the libraries reported that their collections were 1,000 prints or more. Table II summarizes the data on size of film libraries.

TABLE II.

NUMBER OF UNIVERSITIES AND COLLEGES REPORTING FILM LIBRARIES OF VARIOUS SIZES

Size of Library	*Number of Institutions*	*Per Cent*
5— 99 prints	7	12
100— 499 prints	17	29
500— 999 prints	10	17
1,000—2,999 prints	18	31
3,000—7,000 prints	6	11
TOTAL	58	100

The university extension divisions have, of course, the largest libraries, since they are in most cases the oldest centers and since they serve the largest territories. Film libraries in the state teachers colleges are generally small, rarely larger than 500 prints. No direct information was obtained concerning the ratio of film titles to film prints. However, a study of the catalogs of the larger libraries indicates that these agencies are expanding vertically as well as horizontally, adding duplicate prints according to need as well as new film subjects.

What audio-visual materials in addition to films are distributed by universities and colleges? Less than forty per cent of the reporting film libraries indicated that they dis-

tribute audio-visual materials in addition to films. Table III is a summary of the reported collections of slidefilms, recordings, and lantern slides. Twenty-seven of the sixty-five reporting libraries indicated that they distribute slidefilms. These collections range in size from 20 to 1300 prints, the average number of prints being 125. Six of the slidefilm libraries have 500 or more prints. Virtually the same picture exists for recordings and lantern slide sets. Ten institutions reported the beginning of 2"x2" slide collections. A few other types of audio-visual material for distribution were reported. One institution reported 70 sets of exhibit materials. Another indicated 50 sets of mounted flat pictures.

TABLE III.

NUMBER AND SIZE OF COLLECTIONS OF SLIDEFILMS, RECORDINGS, AND LANTERN SLIDES REPORTED BY UNIVERSITY AND COLLEGE FILM LIBRARIES

Kind	*Number of Collections*	*Range*	*Average*
Slidefilms	27	20 to 1300 prints	125 prints
Recordings	24	20 to 1000 prints	200 prints
Lantern slide sets (2" x 2")	20	15 to 750 sets	80 sets
Lantern slide sets (3¼" x 4")	10	200 slides—150 sets	30 sets

Several directors of university film libraries stated that their stock of audio-visual materials other than films is small because these types are less expensive than films and more easily purchased by the average school. Other institutions indicated that their main purpose in building these collections is not to supply ultimate demand, but to demonstrate the possibilities of these types and to initiate schools in their use. It was noted that several institutions which distribute films also have collections of slidefilms, recordings, and lantern slide sets, but restrict their use to campus departments.

What groups are served most by the university and college film libraries? Fifty-six institutions estimated the percentages of their total film distribution to schools and to other groups. While the range of these percentages is great, varying from estimates of one hundred per cent distribution to schools to estimates of ninety per cent distribution to other groups, over three-fouths of the reporting libraries indicated a ratio very near the 90%—10% relationship (ninety per cent to schools and ten per cent to other groups). This relationship, or a ratio numerically very close to it, prevails regardless of the size of the library. While most of these agencies obviously point their offerings to school needs, even the smaller libraries indicate substantial services to groups other than schools.

To what extent do college and university film libraries use educationally desirable booking procedures? A traditional administrative difficulty in the operation of the state or regional film distributing center has been the problem of filling requests with a small inventory of prints. Another problem has been the necessity of planning most efficiently the purchase of films with limited budgets. In consequence, some film libraries have required that film orders specifying dates of use be submitted by schools several months, a semester, or even a year in advance. This policy makes possible easier adjustments in booking and efficient film purchases. While some advance planning by teachers may be desirable, it is difficult or impossible for schools to time films to teaching need under such a system. Under a rigid advance ordering requirement, classroom teaching frequently becomes regimented by a film schedule and is not very effectively served by it. It would seem then that one index of effective educational service is the ability of a film library to meet the requests of its

clientele on a spot-booking basis without undesirable advance scheduling.

In this survey, university and college film libraries were asked to estimate the percentage of their distribution which was the result of bookings made less than two months in advance of the date of use. Fifty-four institutions made such estimates. As in the case of other practices, the reporting libraries vary considerably. Three reported no bookings at all made less than two months in advance of the date of use. One indicated that one hundred per cent of its distribution was the result of bookings of this type. The other fifty estimates were evenly distributed between these two extremes. The median point of the distribution of these figures was fifty per cent. From this distribution it would appear that about one half of these film libraries have, according to their own estimates, been able with relative success to adapt their service policy and booking procedure so as to reduce the undesirable features of advance scheduling.

How large are the annual budgets of university and college libraries? Forty-four of the sixty-five institutions which replied in the survey indicated the amount of money which each had available during the 1946-47 school year as a total budget. The institutions reporting included ten state teachers colleges and twenty-nine state universities. The reports are compiled in Table IV. The amounts reported range from $300 to $217,430. Approximately one half of the reported budgets are under $10,000, while about one fourth are above $20,000. Five institutions reported budgets of over $50,000. The university which indicated a total budget of $217,430 also reported an approved budget for the 1947-48 school year of approximately $350,000.

TABLE IV.

NUMBER OF UNIVERSITY AND COLLEGE FILM LIBRARIES REPORTING THE AMOUNTS OF THEIR 1946-47 BUDGETS

Amount of Budget	*Number Reported*	*Amount of Budget*	*Number Reported*
$ 100—$ 5,000	13	$ 40,100—$ 45,000	0
$ 5,100—$10,000	12	$ 45,000—$ 50,000	1
$10,100—$15,000	4	$ 50,100—$ 75,000	1
$15,100—$20,000	3	$ 75,100—$100,000	3
$20,100—$25,000	2	$100,100—$125,000	0
$25,100—$30,000	0	$125,100—$150,000	0
$30,100—$35,000	1	$150,100—$175,000	0
$35,100—$40,000	3	$175,100—$217,000	1

It should be remembered that these reports give only a part of the complete picture, although it is considered fairly representative of the whole. At least ten of the libraries which reported on their services indicated that their budgets were part of the budgets of larger university or college units and could not be separated. These libraries could furnish no definite information concerning their total budgets or concerning the allocations.

What are the sources of funds which constitute film library budgets? A significant consideration in the study of film library practices is the relationship of the amount of appropriated funds to the amount recovered from rental or service fees. Fifty-four film centers indicated the percentage of their total funds which is appropriated by the institutions and the percentage which is obtained from income. Again, the range of these figures is as wide as it could possibly be, from centers which operate exclusively on funds appropriated to them, to institutions whose programs are entirely self-liquidating. Sixteen of the film libraries operate entirely from appropriated funds, while seven reported that their budgets are one hundred per cent income. The median in a distribution of all the reported proportions was the 75%—25%

relationship, *e. g.,* seventy-five per cent appropriation and twenty-five per cent income. No general policy seems to exist even when the relationship of appropriation to income is studied for the various types of film libraries. On the average, however, three times as much money is appropriated to the operation of the university and college film centers as is earned in rentals.

Ten reporting institutions indicated that they had financial support of other kinds, but these libraries are principally cooperatives or depositories and are not considered in the appropriation-income comparison. Two universities whose reports are not compiled indicated that all funds used in the operation of their film libraries are appropriated and that income (unreported) is returned to the general fund.

For what purposes and in what amounts are funds spent by university and college film libraries? In the survey of film library procedures, colleges and universities were asked to indicate the percentage of their total budgets spent for (1) salaries; (2) operating costs; (3) purchase of audio-visual materials; (4) purchase of audio-visual equipment; and (5) for other purposes. Forty-eight of the sixty-five reporting institutions supplied this information which is summarized in Table V.

TABLE V.

AVERAGE BUDGET ALLOCATIONS BY FILM LIBRARIES

Budgetary Item	*Per Cent of Total Budget*
1. Salaries	37
2. Operating Costs	11
3. Purchase of Audio-Visual Materials	40
4. Purchase of Audio-Visual Equipment	10
5. Other Purposes	2

What educational and professional services do university and college film libraries offer to off-campus groups within their service area? Twenty-five per cent of the sixty-five film

libraries which reported on their services indicated that they hold regional conferences on audio-visual techniques and problems. The regional conference was interpreted as that kind of meeting to which interested groups from an area, smaller than a state, were invited. Thirty per cent indicated that they hold state-wide conferences. Fifty-five per cent hold "local" conferences for city, town, or county school systems. Fifty per cent of the reporting institutions indicated that part of their services is a news letter to clientele. Forty-four per cent of the reporting institutions indicated that they offer extension classes in audio-visual methods. Among the other kinds of off-campus services reported by these film libraries are: (1) lectures and demonstrations at faculty meetings and parent-teacher groups; (2) a consultation service to schools and organizations in the field; (3) short courses; (4) workshops; (5) selected lists of films in specific subject areas; and (6) research and assistance in film selection based on cumulative film evaluation data. Ninety-two per cent of the reporting libraries offer two or more of these services to groups in their territory. Of five distributing libraries which indicated that none of these off-campus service were offered, two indicated that these functions are performed by the state department of education. While it is difficult to determine the extent of these educational services, it is evident from the survey that the film libraries are aware of their educational responsibilities to the film user and are trying to meet them insofar as limited budgets and staffs permit.

What are the campus services of the university and college film center? Table VI indicates the kinds of services offered to campus groups as reported by sixty-five university and college film libraries. Most of the film libraries make their films available to campus groups. Slidefilms and recordings are offered to a lesser extent. A relatively small percentage of the film libraries produce any audio-visual mate-

rials for campus use, but most of them offer assistance in selection and an opportunity to preview material. As indicated in Table VI efforts are made by over one half of the institutions to assist in the training of pre-service teachers in audio-visual methods.

TABLE VI.

KINDS OF CAMPUS SERVICES OFFERED BY UNIVERSITY AND COLLEGE FILM LIBRARIES

Kind of Service	*Per Cent of Reporting Libraries*
Loan of instructional films	80
Loan of slidefilms	55
Loan of recordings	47
Production of audio-visual materials	38
Projection service	63
Preview service	72
Assistance in selection	75
Formal courses in audio-visual methods	60
Work in special methods courses in Education	42
Audio-visual materials for student teachers	53

Among the other campus activities mentioned in the reports of universitity and college film libraries are: (1) procurement of audio-visual materials not included in the inventory of the library; (2) docent work where exhibits for campus groups have been constructed; (3) demonstrations of audio-visual techniques; (4) public-address system service; (5) assistance in solving projection problems; (6) assistance in planning new buildings; (7) advisory service; (8) bibliographies and literature on audio-visual subjects; (9) a weekly film series for faculty and students; (10) training of projectionists; (11) audio-visual workshops, conferences, and clinics for teacher training purposes; and (12) assistance in research involving audio-visual problems.

Administratively, to what division or units of the university or college are the film libraries responsible? Fifty-six of the reporting libraries indicated the department or unit to which they are responsible administratively. Of these fifty-six institutions, over one half indicated that they are units of extension divisions. Four indicated their affiliation with university or college general libraries. Seven are administered by schools of education. Seven report directly to the president or vice-president; four to a dean of the faculty; one to the registrar; one to the biology department; and one to a special administrative board.

Blueprint For Progress

The severest critics of the university and college film library programs are probably those people who are immediately in charge of them. These people have the vision, or at least glimpses, of vast potential services, but they face in their institutions handicaps of competing programs, a deeply ingrained verbal tradition, inertias, lags, resistances—indeed, many obstacles to surmount, and fetters to be broken. They know that their total achievement to date is trivial when measured against the opportunities. On the theory that these people are the best equipped to outline needed development in film library programs, they were requested in the survey to indicate their immediate plans for further development and service. From these stated plans, and from the picture of their present activities already compiled, can be constructed a general pattern for needed growth.

The following outline is a summary of the film library reports on plans for further development, in which the number in parenthesis indicates the number of institutions reporting the plan:

Administrative Plans
- Increase personnel (4)
- Obtain more space (1)
- Increase total budget (5)

Campus Service Plans
- Expand campus services (6)
- Add projection service (1)

Distribution Plans
- Add more films (19)
- Add recordings (4)
- Add slidefilms (3)
- Establish circuit system (1)
- Establish branch libraries (2)
- Develop Film Forum Package Units (2)
- Develop truck delivery service (1)

Production Plans
- Start production of films and slidefilms (10)
- Initiate chart, map, art and photographic service (2)

Evaluation Plans
- Add specialist in evaluation and selection (1)
- Collect evaluative data for films and keep folder on each film (1)

Teacher Training Plans
- More institutes and conferences (5)
- Offer extension classes (3)
- Expand teacher training programs (10)
- Establish summer session workshop (1)
- Develop units on audio-visual aids in education methods courses (2)
- More campus courses in audio-visual aids (2)
- Establish visiting service to schools (1)
- Improve utilization (3)

Other Plans
- Add news letter (3)
- Increase work with adult groups (2)
- Add FM radio (1)

Needs in Distribution

Stated plans of film libraries show them to be most aware of the acute need for larger inventories of films with which to meet unprecedented demands. This need is easy to understand when it is remembered that one half of the film libraries have collections of only five hundred prints or less. Expansion in offerings and in service power by means of duplicate prints is an immediate and necessary goal.

Expansion of existing centers, however, is not a complete solution to the problem of distribution unless these centers form, within a given area, an efficient system or network of distribution which facilitates the easy flow of films to the user. The reported plans for establishing branch libra-

ries[7] are evidence of a felt need to achieve such a network; to decentralize services; to get film supply nearer the user; and to reduce the time consumed in transit. An efficient distribution system involves three elements: (1) a strong state or regional film center; (2) film sub-centers serving smaller areas within the territory of the first-named library; and (3) strong local programs involving county or city school film libraries. Whatever the character of the distribution system, each college or university film library would do well to consider itself as an ultimate part of such a distribution system; to participate in the kind of planning involved in the state programs described in Chapter 31; and to shape its own distribution policies accordingly. With the development of statewide and local programs, it is probable that the character and functions of the university and college library will be modified considerably

There is further need for university and college film libraries to assume their share of responsibility in promoting school-owned film libraries. Film producers have in the past been sharply critical of university and college film libraries because, it was claimed, these libraries, unable themselves to buy heavily enough to establish a stable film market, paid only lip service to the idea of school-owned films and tended by their mere existence to reduce sales to schools. It is doubtful that this statement can be taken seriously as a general indictment, but true or not, the criticism points up the obligation of the film libraries to promote local film ownership. Such promotion is not only a professional obligation to the field, but it reacts to the benefit of the libraries themselves. In general, the more films school systems buy, the more they rent.

A little bolder experimentation in distribution on the part of film libraries might reveal techniques of increasing print activity. One film library reported plans for circuiting

7 Three existing branch libraries are reported in the survey.

films. The circuit films involves shipping a film to an initial borrower, who in turn ships the film after use to the next user, and so on until the circuit is completed. While it is probably undesirable to organize circuits for basic curriculum films, it should be possible to employ the circuit technique for general interest films for large group programs.[8]

Needs in Training and Research

The number of film libraries reporting plans in teacher training was second only to the number reporting plans in distribution. These plans cover both pre-service and in-service teacher training activities. On the pre-service level, most of the institutions have the elements of a basic program, but there is not much evidence that these elements are conceived as an integrated program. The "core" program for pre-service teachers should include: (1) systematic treatment of audio-visual techniques in the special education methods courses; (2) opportunities for student teachers to use audio-visual materials in supervised teaching situations; and (3) campus use of audio-visual materials in subject matter courses, which is "training by example." Such a program will not run itself, and requires active, professional and continuous promotion and direction.

On the in-service level, the reported plans and existing activities include most of the known techniques such as conferences, clinics, institutes, workshops, extension classes, consultative services, and summer session courses. The number of teachers in service who should have assistance in acquiring audio-visual competencies is so large that the need here is clearly for increased personnel in the film centers if any adequate coverage is to be achieved.

Research in audio-visual aids was not mentioned generally either in reported plans of the film centers or in their

8 Hoban, Charles F. Jr. "Distribution and Film Library Service," *Movies That Teach.* Dryden Press, 1946.

existing activities. Research into utilization procedures; techniques in production; evaluation of materials; administrative procedures; effects on attitude and on ways of learning; and into many other subjects are needed. If research is to give more substance to the audio-visual field and serve it better, universities and colleges will have to undertake a more active role in research, and film centers will have to promote it. Another related need is for greater attention to the training of audio-visual specialists in graduate training programs.

Needs in Campus Services

Six institutions reported immediate plans to expand their campus services. Such activities should receive general promotion and development. They are especially important to the "core" program of training student teachers. A specific need in these campus services is for the production of audio-visual materials for campus departments. Another definite need, indicated by the compilation of campus services in Table VI, is for the collection and promotion of audio-visual types other than films. It is probable, also, that more time and attention could be given to the development of the film library as a center of information on all types of audio-visual aids for the campus, and to other professional services such as assistance in selection and use. It is clear that the relationship of the film library to the campus is identical in many respects to the relationship of the city department of audio-visual aids to the schools within a city system.

Needs in Production

Little actual production of audio-visual aids by universities and colleges was indicated in the survey, although several plans involving production were reported. Two lines of development in the production of audio-visual aids are possible. The first is a sound and photographic service to campus departments for the production of slides, films, slide-

films, charts, and recordings which meet immediate and specific instructional purposes. This "custom-made" approach is especially desirable because of the general lack of audio-visual materials made for the university and college level.

The second possibility is the serious production of audio-visual materials for general distribution and sale. This kind of project involves research, planning, and educational authorshop of scripts, as well as the technical production of films, slidefilms, radio transcriptions and other types. That this kind of activity is within the powers of the university and college is emphasized by Kaufman,[9] who states that the university is the natural home of the information film, and that the film can become a potent extension of the university in its central task of disseminating truth. Campus production, of either type, can have important by-products. It offers the film center additional opportunities to promote effective utilization by close association with the user; and at times it has changed a participating faculty member, who was apathetic or dubious about audio-visual methods, into an enthusiastic supporter.

The Concept of an Audio-Visual Center

The university or college program in this field, then, should be a five-point integrated program which embraces (1) the distribution of audio-visual materials to school and community groups; (2) the training of pre-service and in-service teachers; (3) the promotion of campus utilization; (4) the production of audio-visual materials; and (5) the promotion and implementation of research in the audio-visual field.

These functions are hardly implicit in the name "film library." The full range of responsibilities and the philosophy back of them are more nearly suggested by the term "audio-visual center." An audio-visual center should be truly

[9] Kaufmann, Sidney. "The University and the Film," *Film News*. January, 1946.

a center of audio-visual *materials*. It should be a center of *information* about audio-visual materials, their selection, production and use. It should be a center of *professional leadership* and *assistance*. It should be a center operated in the spirit of true *service*. Most of all it should be an *educational* center and its program regarded as an *educational* program, the cost of which is the difference between the amount of its appropriation and the amount earned through its services.

This concept of a multi-phase educational program, implemented by an audio-visual center, is basic to the substantial progress which universities and colleges should be expected to make in this field in the immediate future.

Chapter XXXIII

THE LOCAL FILM PROGRAM AND ITS DIRECTOR

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The local school or school system cannot achieve any real efficiency in the use of films without some form of central planning. There are several imporant advantages. In the first place, centralization should bring about some financial savings. There should be wider use and more careful scheduling of films which are borrowed and rented. When films are ordered by individual schools or teachers, there will inevitably be many duplications of the same or similar titles. Carefully planned, the same film can often be used in several classrooms or schools, with resulting savings in rental and transportation charges. Most important, however, intelligent central direction can result in more thoughtful selection of rented and purchased films and in increasingly effective teacher use of these films. These advantages certainly will not result automatically. They will not result at all, unless there is a good deal of thoughtful consideration of the place of the visual program in the total instructional picture.

The Director

Let's look at the qualifications of the person who is to direct such a program. He must know thoroughly the sources of available films and other visual material. He must be

familiar with projection equipment. He must be able set up channels through which visual materials can be circulated efficiently. He will have to operate a maintainance program for both equipment and materials. He will have to be thoroughly familiar with the local curriculum. He will have to sell the Board of Education and community on the value of the program. Most important, he must be able to work effectively with teachers, in selecting materials and in improving their classroom utilization.

Obviously, this is a large order. It means that the best available person is needed for the job. Many of these skills and techniques can be learned in service by an alert person, willing to take additional courses and to learn from the experience of other school systems. Certainly the job of direction will require time. We should not expect an excellent job from a teacher who is assigned this duty on his "off period." We cannot expect an effective program if we give the post to the physics teacher or the industrial arts man because he is "handy with equipment." The job of director should be most carefully considered in the light of the essential qualifications and the amount of time it will require. Certainly, in cities of any size, nothing less than full-time direction is adquate.

A school system embarking on a serious audio-visual program is faced with a number of problems. Shall we rent or buy? How shall we choose the films to be used? Shall we supplement a central library with rentals? Should some films be deposited semi-permanently in individual schools? What about in-service training?

Renting vs. Buying

Most school systems have come to the conclusion that a carefully planned local film library is essential if any degree of teaching efficiency is to be achieved. Only through a local library can films be made available to the classroom teacher at the precise time they are needed in the curriculum. Rented

films, which are commonly booked as far ahead as six months or even a year, cannot possibly result in any high degree of correlation with other learning activities. Such films, in a large percentage of cases, simply are not available when they are most needed.

The building of a central film library will take time. Rented and borrowed films will be needed to supplement purchases. It is imperative, however, that a long-term program should be set up. Otherwise, purchases will be sporadic and will bear only incidental relationship to the total program of the school system. Let us look at such a plan.

The Central Library

The function of the central film library will be to provide a selection of films which are basic to the curriculum, films which will be used frequently by many teachers throughout the school system.

How does one select such a library? Practices vary in major U. S. cities. In many cases selection is made by the director alone. In some cities the director is assisted by supervisors or department heads. Other cities use teacher committees to select their films.

It has been the writer's experience that the greater the part which classroom teachers play in this selection, the more enthusiastically and effectively they will use the materials. Teacher participation has many advantages. First, fewer unwise purchases will be made. Unless the classroom teachers feel a genuine need for a film it will remain on the shelves and the purchase cost will have been wasted. In the second place, viewing committees are an excellent means of spreading information regarding available materials, generating enthusiasm for the program, and discussing utilization problems.

A teacher planning and preview committee is needed. This committee can be set up on either a semi-permanent or a rotating basis. An effective approach has been to appoint

each year one teacher in each building or department. This committee would preview the films and other visual materials and recommend purchase. They would set up general policies regarding rentals and use of equipment. They would pass on specific problems such as the use of sponsored films.

These functions are important, but such a committee can do much more. These teachers can act as a connecting link between the central department and the teachers they represent. They can be valuable in carrying back to their buildings or departments a good deal of information about new films and utilization techniques. They can transmit to the director the ideas and reactions of teachers in their buildings. They can, in fact, be the leaven in the entire program, sharing their enthusiasm and understandings with the teachers and administrators with whom they work.

What considerations are necessary in setting up a central film library? Here are some of the guide-posts which can help the director and his committee plan a program of greatest value to their local situation. Unless such careful planning is done, a good deal of money will be spent for films of only secondary value in the teaching program. Not only are such mistakes costly in money but they are likely to dampen much of the early enthusiasm of teachers who receive the ill-considered purchases.

(1.) *Set up a long-term program.* The director and committee should decide the general areas of the curriculum in which films will be added over a period of time. Funds and available films will not permit fulfilling this entire plan at once. As a general guide, however, it will avoid purchasing films of little importance in the curriculum and will encourage a better-rounded film library.

(2.) *Buy only films that fit important curriculum needs.* All reputable film companies allow preview of films before purchase. The practice of most local libraries in the past has been to preview materials as they are sent out by the various

film companies and buy those films which are found useful. A better procedure, and one made possible with the more varied offerings of film producers, is to deliberately set out to find good films in areas where they are needed; areas such as health or beginning arithmetic or peoples of Europe. There are several comprehensive film listings which will be of help to the director and his staff. The most extensive guide is the *Educational Film Güide* published by the H. W. Wilson Co. Other useful guides can be obtained from the *Educational Screen* magazine, the U. S. Office of Education and several manufacturers of projection equipment. The nearest local film libraries can also be helpful. This basic library should be looked upon as a source of teaching materials which will be available whenever they are needed. It follows, then, that in a school system of any size several prints will be needed of widely-used subjects as soon as the program gathers momentum. For example, in one system with 21 elementary schools, three prints of *Farm Animals* are in continuous circulation and more are to be added. Unless the central library can supply films to each teacher when she most needs them, such a library has sacrificed its chief value. Too many film libraries spread themselves too thinly. We must not lose sight of the fact that unless we are able to supply these films when they are needed then the problem can be as satisfactorily met by rentals.

(3.) *Supplement the central library with rental and free films.* The number of rented or borrowed films will tend to become less as the library grows. Some of the seldom-used films, however, probably will always be obtained from outside sources.

(4.) *As the program grows, consideration should be given to depositing some films on a semi-permanent basis in schools which, by their size, or the enthusiasm of their program, give promise of intensive use of these films.* Many films which are useful only in a senior high school, should be deposited for the semester or longer with the individual school.

In the elementary grades, there will be an increasing number of films, such as *What Is Four?,* which will be needed frequently enough in a sizeable elementary school to justify depositing a print in the school.

Local Materials

Usually a film program is thought of only in terms of films which can be purchased or rented. The locally-produced movie offers teaching possibilities which cannot be obtained in any other way.

Locally-made films can be tailored-to-order for the local school or community. In the field of traffic safety, for example, a local film can show the specific hazards, the actual intersections, the local police officers, which the pupils will encounter every day. In the same way, problems of health, slum clearance or local history can be depicted in a school-made film or filmstrip.

The very process of planning and making the film can involve a great deal of learning. In other words, the film can be the incentive—the motivation—for learning. This value, is probably the greatest, since the technical quality of locally-made films will not be equal to the commercial variety. For example, in Upper Arlington, a suburb of Columbus, Ohio, a class of eighth grade pupils became concerned about a serious bicycling-riding hazard. At the suggestion of their teacher, they decided to make a movie to show safe bicycle riding techniques. They wrote letters to authorities in the country, interviewed local police, inspected hazardous crossings, wrote their scenario and, with the help of a local cameraman, produced *Pedal Pushers.* The chief value of this film was unquestionably to the pupils who participated in the activities leading to making the movie. Schools interested in local production can find the story of this project and numerous others in the booklet *Making School Movies,* by Hart and Wenger, available from the Ohio State University.

Projection Equipment

The sound movie projector represents a large outlay of money. Indeed, many schools and school systems, because they do not see clearly the function of classroom films in their classrooms, spend most of their money on equipment, leaving litttle for purchase of films. One principal of a large high school recently related how they had made an "excellent" start on their teaching film program by raising $1500.00 through magazine sales. They had spent the entire sum on an elaborate projector permanently installed in the auditorium. Neither the school nor the school system had any additional funds for film purchase or rental.

The director and his staff must, then, have clearly in mind the purpose of his projection equipment when he talks to salesmen. If we are interested in classroom teaching with films, then we shall look for a portable, reasonably light-weight machine, highly simplified in loading, and devoid of all unnecessary devices.

Most school systems cannot afford movie projectors for every school at the outset. Often it is necessary for some of the smaller schools to share the available projection equipment. It is apparent, however, that such equipment cannot be spread too thinly without sacrificing the main purpose of a central library: getting the film to the teacher when he most needs it.

Making the Program Work

The first job of the director, as we have seen, is to set up machinery to provide films, either by purchase or rental, to meet the needs of his teachers. To a considerable extent, this becomes a mechanical problem of "getting things around" within the school system. Various methods are used by different school systems.

In some cases each school orders its own films direct from rental libraries and notifies the central office. Films are

shipped to each individual school without reference to the orders of other schools. This method not only fails to solve the problem of circulating locally-owned films but also fails to achieve the rental economies possible with centralization.

Other school systems, in order to get the economies of use by many schools, order a "program" of six or eight films which are circulated intact among various schools of the system. Since these programs are commonly left in one school for only a day or two its obviously impossible for the different film subjects to be used by the individual classrooms where they are needed. Usually, after making futile attempts to get genuine classroom teaching, even the most enlightened principal soon resorts to mass showing in which the same pupils may see everything from *Mary Visits Poland* to *The Molecular Theory of Matter.*

Neither of these plans offers promise of achieving the goal we have set up, that of supplying the classroom teacher with the film she needs when she needs it. This goal cannot be met without some form of regular transportation between the central office and the various schools. Daily deliveries would be the ideal. Certainly no school should have fewer than two or three potential deliveries per week. In many school systems, economies are effected by having the same truck carry not only films and projection equipment, but also school furniture, cafeteria foods, books, and the like.

What are some of the problems of circulating films efficiently? First of all, the ordering of films must be kept simple. The importance of this principle cannot be overemphasized. The teacher who is faced with an array of complicated forms will soon decide to do without the use of films. The writer has found that a dual system of ordering answers the problem admirably. Most films can be ordered by filling out a simple request form which will include the name of the film, the school, the teacher, the date, and, if a rental film, the source. These forms can be mailed to the central library or picked up

by the delivery truck. This method works well for films which are ordered a week or more in advance. Occasionally, however, teachers need to obtain films on short notice and provision must be made to take care of this need. Ordering by telephone can be used to provide this flexibility. In practice, this simply means that the clerk fills out the request form in the central office. While such an arrangement is subject to some abuse, its advantages in flexibility far outweigh the disadvantages.

No large number of records will be needed by the central library in keeping track of its films. In addition to the request form, we shall need a form to notify the teacher of the availability, or unavailability, of the film for the specific date she has requested, and a pick-up form to be used in returning the film to the library. When a film is not available as requested, it is important to indicate when the film can be obtained. If showing and attendance records are wanted for such purposes as annual reports, then a film showing report should be enclosed in the film can. In addition, an individual file on each film will be needed to show amount of use and location of the film at any specific time. The keeping of even such simple records will take time. If the director is required to do all of this routine work, he will become hardly more than a glorified clerk, with little time for his most important task, that of raising the level of teacher use of classroom films. Clerical help is needed and should be provided. Machinery must also be set up for inspection and repair of films. Sound films are expensive and it is literally true that a few damaged sprocket holes, if not repaired, can in the course of several showings lead to very expensive damage. In addition, the effectiveness of the program will have been impaired by the need for frequent projection stoppages as the damaged footage is screened. There is little question but that the time required by a clerk for routine film inspection will pay for itself, purely in terms of film costs, over a period of a few years. Films re-

turning from use by a school should be checked for breaks, missing leader strips, torn sprocket holes and the like, and immediate repairs made.

The biggest single task faced by the director will, of course, be that of improving the quality of film use in his school system. He will find in his schools varying degrees of understanding of the place of classroom films, ranging all the way from the purely entertainment concept to the use of films as an integral part of the teaching process. He will be faced with apathy and fear of the equipment. Obviously the problem is complicated. It cannot be wholly solved in one year or with any single technique. Patience, a clear vision of the goal, and a variety of approaches to the problem are needed.

The Local Bulletin

A very promising device used in many school systems is the periodic bulletin which goes to all teachers, and to other key figures such as the superintendent and members of the Board of Education. This bulletin can accomplish several purposes: (1.) It can publicize new films as they are added to the library. (2.) It can bring to the attention of all teachers some of the outstanding cases of film use by teachers in the system. This technique is far more effective than preaching about improved utilization; at the same time it builds morale among the teachers who are doing an excellent job of using films. (3) It can publicize significant developments in the audio-visual field in other school systems. Over a period time, the cumulative effect of such a publication can be significant.

The Audio-Visual Committee

Also very useful is the committtee of teachers, representing, if possible, each school and department. This committee, as noted earlier, can serve a great many purposes. Its advice should be sought on questions of film purchase, and through this procedure will come increased understandings of the

proper place of teaching films. General policies of the library, questions of rental and purchase budgets, questions regarding the use of free films—all of these can be clarified through discussions in such a representative group and the general level of understanding improved. Too, it is hard to overestimate the value of having in each school a teacher who can answer questions for her fellow teachers and who thoroughly understands the program and goals of the department.*

In-Service Courses

Another way to increase the number of skilled, informed, and enthusiastic teachers is to offer in-service courses in audio-visual techniques. If these classes are offered at a convenient time—probably in the evening—and are planned around the needs expressed by their teachers, the attendance may well be surprising. In one school system, a total of seventy-four teachers (slightly over one teacher in ten in the school system) recently enrolled in a series of evening classes offered on a purely voluntary basis. In this case, three series of evening classes were offered, keyed for the needs of primary, upper elementary, and high school teachers. However such courses are arranged, they should be planned in the basis of *local* needs.

What skills and information *do* teachers want? Here is a summary of the wishes expressed by the seventy-four teachers mentioned above. A similar check with a university class of teachers in a credit course resulted in approximately the same preferences. Significantly, teachers at the primary, upper elementary and high school levels requested experience in the various areas in approximately the same proportions. Here are the top five experiences requested: how to make materials (especially glass slides, 2x2 slides) for my classroom; opportunity to view films, slidefilms, etc. in my field; practice using equipment; discussion of how to use visual materials more effectively; and, discussion and practice using radio and recordings.

* See Chapter 34, "The Building Coordinator of Audio-Visual Aids."

It is significant that a large proportion of teachers feel a need for experience with equipment and for an opportunity to become familiar with the films available in their field. Needs such as the above can be effectively met in an in-service class.

The Workshop

Another way of satisfying the same needs of teachers is to provide a room or workshop where teachers from any school can come at their convenience. Here they can become familiar with equipment. They can view films and other materials in which they are interested. They can make glass slides or mount pictures. The possibilities of such a center are almost unlimited.

Other Devices

Many other occasions will arise during the school year when the alert director can further his program. Recently, for example, a moderate-sized school system was closed because of a poliomylitis epidemic. Since the teachers were still on duty, the superintendent was anxious to find interesting and worthwhile material to make up a series of system-wide faculty meetings. Here the audio-visual director volunteered his services and was given the opportunity of talking to several hundred teachers in the system as well as screening the latest films available from the library. Some of the results of those meetings were evident throughout the year.

Some of the most popular meetings of regional audio-visual conferences are those where the latest releases of films are screened, often with an evaluating panel. Here is another lead for the alert director, who can provide screening of carefully-selected films from his library at local "institutes" and meetings.

One school system recently subscribed to the *Educational Screen* and *See and Hear* for each building represented on their audio-visual committee.

Listings in Course Outlines

Most central film libraries start out, of necessity, as a service to teachers who see the need for educational films. However, as basic films are added to the library and accepted by teachers, it is not unreasonable to foresee a point where all teachers of a given unit will use the appropriate film as a matter of course, in the same way that they use the basic textbook. For example, a teacher of a sixth grade class studying U. S. history is expected to provide certain textbook reading experiences to every pupil. Is it unreasonable to expect that same teacher to provide for those pupils the experience of learning from such basic films as *Colonial Children, Kentucky Pioneers,* and *Westward Expansion?*

In school systems where this goal is approached, courses of study are being written with films and other visual materials listed at appropriate points along with textbooks and the conventional reference books. In any school system, as courses of study are revised, it would be wise for the director to work directly with supervisors and teachers in suggesting appropriate films, filmstrips, field trips, and other learning experiences for inclusion in the course of study.

Financing the Program

Projection equipment involves the outlay of considerable money. Films are relatively expensive teaching tools. Many individual schools, tired of waiting for tax support, have raised the needed money in various ways. One small rural school outside Pontiac, Michigan, recently raised $1,000 in a bazaar. Paper drives are common devices, while PTA's and Mother's Clubs have helped countless schools. Such devices, while necessary, are only temporary measures. If the program is to have long-term effectiveness, if films are to have a standing as basic teaching materials, they must be financed by

budgetary allowance in the same way as books and other learning materials.*

How much is needed? Per-pupil annual allotments vary all the way from a few cents to $2.00 per pupil. However, the needs of the program as set up, rather than any arbitrary per-pupil figure, should be the basis for determining tax assistance to the program.

On a long-term basis, it is the job of the director to sell his community on the value of the financial outlay needed for an adequate program. Talks and demonstrations before service clubs, PTA's, Mothers' Clubs and other community groups can go a long way toward gaining and holding public support for the program. Still pictures and brief stories will be welcomed by most local papers and should not be overlooked as public relations devices.

Making equipment and films available to the local community, whenever it does not conflict with the school program, is one of the best means of selling the public on visual materials. For example, the schools of Highland Park, Michigan, offer to provide to any adult group an apropriate film program, complete with projection equipment and operator. This service is available during the day or in the evening and includes consultation as to the best film, delivery of projector and film by the police department, and an operator, released if necessary from the high school†

It is important, also, to dramatize for the Board of Education the improved teaching which is possible with audio-visual materials. Board members can be invited to special screenings. Carefully prepared annual reports are helpful, especially if these reports contain not only facts and figures on the program but also information as to the accomplishment of the program in terms of better schools and of future needs and their educational possibilities. If an audio-visual bulletin is issued it should be mailed to each Board member.

* See Chapter 30, "Public Support of Audio-Visual Programs."
† See Chapter 36. "Serving the Community's Film Needs."

Outstanding examples of classroom utilization should be written up and circulated among teachers and Board members.

A local film program has possibilities for the improvement of education which *can* be sold to a community. If the superintendent, director, and teachers have clearly in mind the possibilities for improved education for children and adults, the financing of the program need not continue to be a serious problem.

CHAPTER XXXIV

THE BUILDING COORDINATOR OF AUDIO-VISUAL AIDS

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The building coordinator is the sparkplug of the film program. The program in his building goes or stalls in terms of his functioning. As an advocate of film use in education he needs to be enthusiastic, yet ready to meet lethargy in others by also being friendly, tactful, considerate, cooperative, and helpful himself. He should recognize that part of his problem is one of in-service training—to get his fellow teachers to conceive of films and other visual aids as being fine, effective tools of their trade just as are pencils, paper, chalk, blackboards, and textbooks. He should be ready to begin work with whatever film equipment and materials can be obtained, rather than to wait for the utopian outfitting of his building with enough of the "latest and the best". Of the many functions taken up on this chapter, few coordinators can do all of them; all can do some.

The method by which the building coordinator is designated is not too important. He may be chosen by the principal, elected by the faculty, selected by the system audio-visual director as the central audio-visual committee member representing a particular building, or just work himself into the job by volunteer effort. And the size of the job varies according to the size of the school and the amount of activity in the visual program. In most schools the custom of appointing jobs among faculty members—safety patrol, hall duty,

films, etc.—should suffice, for a beginning at least. When the program grows, allowances in the coordinator's teaching schedule can make room for growing duties. Regardless of the method of selection, it is assumed here that the building coordinator will work closely with the building principal in fitting the audio-visual program smoothly into the other phases of school operation.

As chief "worrier" for the building in film matters, the building audio-visual coordinator will find his work falling into three main categories: smoothing out the mechanics of the film program, developing a growing awareness of sources of materials, and obtaining better utilization of films in the teaching process. The ramifications of these three phases of building coordination will comprise the main part of this chapter.

It cannot be safely assumed in any discussion about films in education that all teachers are out of the "lens-wiping" stage. In fact, far too many of them haven't yet entered it. The building coordinator, beginning with whatever equipment is obtainable, must get his colleagues into this stage—the business of learning how to set up equipment, how to operate it, and how to care for it. Clinics, workshops, demonstrations, "each one teach one", and other means can help do this. Effective methods will vary with situations. The building coordinator's imagination, ingenuity, and judgment will determine the successful ones to use.

Many of the barriers to overcome, especially with non-mechanically minded teachers, are psychological. But with most visual equipment being no more complicated than sewing machines, all teachers can become efficient operators. As soon as adequate proficiency is evident in a fellow-teacher, the building coordinator should stimulate the learner to use the equipment in a teaching situation. Some coordinators reverse the process, beginning with a diversified sales demonstration program showing the value and importance of vis-

ual aids, leaving until later the then more highly motivated mechanical learnings.

Students should be included in the process of setup, operation, and care, but only after teacher proficiency has been established. For teachers to rely solely on student or custodial operation is as inappropriate these days as it would be to furnish a stenographer to do blackboard work for a non-writing teacher. Students and custodians under teacher supervision can in many cases take care of the transportation, cord stringing, and other time-consuming details of operation, while the teacher gives attention to other items. Operator's certificates, clubs, and other devices are useful to give recognition to students participating in such a program.

In addition to setting up and operating equipment, teachers must then become conscious of its maintenance and care. The increased efficiencies of new "coated" lenses and higher lamp wattages can soon be canceled by an accumulation of oil and dust on lens surfaces. Poor sound or no sound can result from unreported loose cord connections. A dirty film gate can ruin hundreds of feet of good film surface. Delay and frustration for the next user can be caused by missing takeup reels or reel arms, kinked speaker cord (hand-wind it on the spare reel), or any one of the loose parts which may be overlooked in packing up the equipment.

The building coordinator, even after careful and thorough training of his colleagues, still holds responsibility for frequent routine checking of equipment parts and functioning. A scheme for having trouble quickly reported to him by users will help materially in such checking as well as in training the users to handle such matters for themselves. Equipment should be kept out of the shop for lamp changes, belt replacements, oiling, screw tightning, and other minor on-the-spot adjustments. Careful study and constant reference to the equipment-maker's handbook is an invaluable aid.

Concurrently with teaching "lens-wiping", the building

coordinator should begin the second and more drawn out phase of his job, that of developing in his fellow-teachers a knowledge and familiarity of film resources. The catalog of the school system's film library is an obvious place to begin. But many schools have not established such resources. State university or cooperative film libraries are usually available to all schools. Producers of classroom films are eager to send brochures and catalogs of their available materials. These possibilities are described in other chapters. In addition, if local school policy permits, exploration should be begun of sponsored films—films from industry, government, foreign countries, professional organizations, and others. A letter to every film source listed in one issue of almost any publication on visual education will give the building coordinator a rather voluminous beginning on a file of film sources. From that point on, one thing leads to another, and the file continues to grow.

The building coordinator, by circulating catalogues, calling attention to film sources in faculty meetings and—above all—keeping the file in ready access to all teachers, will do much to help teachers become aware of the constantly growing number of film sources.

It should be emphasized that neither of these stages is separate and distinct from the other. Action on both phases at once is important. While teachers are learning to operate equipment and beginning to use films, they must obtain films from somewhere, thus stimulating beginning film source study. And when teachers use films they must, if they are to do acceptable teaching, use them *for* something. The building coordinator, then, must assume responsibility for obtaining good utilization of films.

Utilization, the main task, is unquestionably the most important phase of a building coordinator's work. Each new film used is a new problem in utilization. The best use of films in teaching obviously won't come with the first at-

tempts. It is entirely possible to stifle a budding program by too much initial emphasis on the desirability of attaining a perfect technique of film use. As teachers first get films and use them, however inappropriately, the alert building coordinator will find in the process the awaited opportunity to discuss best or better ways. Many times such observations come from the teachers themselves. Readiness is as important with teachers in this professional learning process as it is with children in the scholastic one. An excellent place to begin is to develop in fellow-teachers an awareness of the kinds of things films can do—to teach skills, give information, develop concepts and understanding of processes, condition attitudes, and other things dealt with in the earlier chapters of this book.

As the teacher's purpose of the film use becomes clearer, scrutiny of the more efficient means for achieving the purpose becomes sharper. For example, individual or staff viewing of Encyclopaedia Britannica Films' *Using the Classroom Film* will help focus attention on some of the teacher techniques for better film use—the need for the teacher himself to know the film being used, the importance of helping the pupil to have a purpose in seeing the film, and the value of immediate as well as delayed followup, and reshowing if necessary.

In all of this, the building coordinator plays the role of a teacher and helper of his building colleagues. He must apply the same principles of readiness (motivation), exercise, and effect in the process of working with fellow-teachers as he would with his own pupils. He must expect slow progress; he must allow for marked individual differences in aptitudes, interest, and learning rates; he will never find the building staff members all in the same stage of development at the same time. His approach, therefore, must be both individual and collective.

In addition to facilitating equipment use and mainte-

nance, and building up card files of film sources, the building coordinator should set up a scheme for collecting evaluations of films. Using a simple system of card notations of teacher comments is a good beginning. Some may wish to use forms already worked out by others. In any event, the scheme should operate quickly, simply, and practically. The building coordinator should merely check up on such details through reminders, sending cards to teachers following film use, supplying outside evaluations where they are available for a particular film, and the like. An onerous scheme whose functioning depends on demands from the building coordinator may discourage rather than stimulate film use.

The building coordinator obviously is a key person in the school's group use of films on an auditorium basis—and there's much justification for such practice if it is not the sole use of such materials. Soliciting recommendations in program planning as well as following up post-showing reactions is one of the building coordniator's obvious duties.

In the use of the smaller visual aids room or in classroom situations, it is the function of the building coordinator to help arrange equipment and room schedules or set up charts for self-booking.

Ordering films, whether from the local library or from outside resources, is a definite job of the building coordinator. Or, if the local situation permits, he can be a valuable aid to individual teachers in doing their own ordering. He particularly should develop staff recognition of the fact that films are "hot copy" in transportation, and develop "next-user" consciousness to the point that all films move out on time.

As the building extension of the system's audio-visual director, if the system has one, the building coordinator should help in carrying out the local practices and policies of the system-wide audio-visual program. For example, the school system may have policies in regard to the showing of some types of sponsored films and not others. The building

coordinator must be prepared to advise his colleagues as to the application of such a policy or, in uncertain cases not always easy to recognize, to refer them to higher authority. He should facilitate the flow of information and ideas from the director or the committee into action at the building level. In turn, he should reverse the process when the building group has unusual success with a film, a device, a utilization technique, or any other item that ought to be known by others in the system.

More than anyone else in the building, he should keep up with developments in the field—new films, new or better types of equipment, improved utilization, and the like. If building funds permit, or out of pocket as a professional expense, he should subscribe to three or four of the recognized magazines in the audio-visual field, make them available to fellow-teachers and circulate marked articles from time to time.

He should, with staff assistance, utilize every opportunity to exhibit and demonstrate the value of audio-visual aids to community groups such as PTA's and luncheon clubs. He should advise them of films suitable to their programs and, where policy permits, supply their equipment and assist with projection if possible.

A caution needs be observed throughout the building coordinator's functioning. As was stated in the earlier portion of this chapter, building coordination of audio-visual materials couuld be a full-time job. And it will quickly seem to become one if the coordinator does not avoid at every step doing things for other teachers that they can well do or learn to do for themselves. Just enough should be done at any stage of development of the building's audio-visual program to keep it improving toward the goals set—not just enough to keep it running at the particular stage it's in—but *not* to the extent that the building coordinator becomes an indispensable person in the building's film program.

In this writer's opinion, the best longtime program which results in the greatest total staff improvement in use of audio-visual aids will come from rotating the assignment of building coordinator, each year working with an understudy "co"-coordinator to be his successor the following year. One works better and harder at a job whose end he can see. Furthermore, such a scheme of job rotation emphasizes the horizontal relationship necessary to successful total-staff functioning on any program. In this respect the building coordinator truly works with, not over, his fellow-teachers.

As the staff grows in expertness at handling equipment, in awareness of educational film sources, and in professional adeptness at classroom movie use, so will grow the building coordinator's understanding and perspective of his function.

With the suggestions here, together with others evolved through working, the building coordinator can truly become the sparkplug of the film program.

CHAPTER XXXV

THE COOPERATIVE FILM LIBRARY

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Motion pictures are as essential to the learning process today as any other teaching aid or textbook that finds its way into the classroom. No modern educator regards the motion picture as a fad or a passing fancy. It is the long awaited medium by which the outside world can really enter the schoolhouse. The question today is, *how can schools get all the films they need when they want them?*

For large school systems, the answer is relatively simple. They merely set up audio-visual departments complete with films, slides, pictures, machines, trucks, clerks and a director of audio-visual instruction. For small school systems, the solution is not easy. The purchase of sufficient film and the cost involved in handling it, have made the setting up of small individual audio-visual centers almost prohibitive. However, not wanting to be without this important classroom equipment, a good many schools have turned to State and other film rental libraries for such service as these could furnish.

Unfortunately these libraries serve so large a territory that they have not always been able to meet the needs of the teacher. Scheduling of films usually has to be done a year in advance, which makes it difficult for the teacher to integrate the film with classroom instruction. Not that these sources have been without value; they have done the best that they

could and many a classroom has been the better for their help. In all fairness to state film libraries, it should be mentioned that many of them are purchasing duplicate prints and allowing teachers to place orders for films at more frequent intervals. However, the fact remains that films must be brought closer to the teacher if they are to be used effectively, and that is a difficult task for a state-wide distributing center.

For many schools the answer to this problem has been the *cooperative film library.* By combining local resources, libraries have been developing in a small area which give adequate and efficient service to the member schools at a nominal cost, usually through some cooperative arrangement. The idea of cooperatives is not new in America. Farmers have for many years used the cooperative organization to market and distribute their goods. Educators can use this same system to solve the film problem. The Cooperative Film Library has the advantage of: (1) allowing teachers to obtain films when needed. (Booking does not have to be done so far in advance); (2) creating a greater interest in use of films as member schools have an investment in the library; (3) developing better utilization as a trained director becomes available to assist teachers with selection and use of film; and, (4) allowing member schools to set up administrative and service policies to meet their needs.

The First Step

The way to set up a cooperative film library is to generate the necessary enthusiasm and begin. The longest journey starts with a single step. The largest movement starts as an idea in a single brain. Sometimes a single teacher can be the the driving power which will start the idea on its way to realization. Within a radius of 25 miles or so there are many schools which would be interested in starting a film library. A committee of interested persons should contact them to determine how many would be willing to join. It would be

well to keep within such political boundaries as city or county since this simplifies the problem of finance and distribution. It also avoids legal entanglement. Cooperatives sooner or later end up as city or county units, anyway, so in the initial planning it is well to keep this point in mind. A great deal of trouble and red tape will thereby be avoided.

Functions and Services of the Cooperative Film Library

The cooperative film library is in a position to render the member schools many services. How intensive and varied the services the library provides will depend on what the members want in the way of a program. It can be merely a mail order house from which members order their films. Even though distributing films is an important function of a library, successful cooperative film libraries can do much more than act as distributing centers. For example, here are some of the functions of a cooperative film library which have proven valuable:

1. Adequate housing and maintenance of films. Films need proper storage and inspection if they are to reach the teacher in good condition.
2. More direct methods of distribution. Films must reach teachers when they need them. Inefficient methods of handling and distributing films are often the cause why teachers lose interest in classroom use of films.
3. A continuous program of film evaluation to determine the most effective films and methods of utilization.
4. An in-service education program which will help teachers make the most effective use of the film in the classroom. Workshops, bulletins, experimentation, etc., all can be part of the program.
5. Maintaining a liaison between the coordinator in each individual building and the library.
6. Maintaining an up-to-date file of new films.

7. Preparing catalogues, bulletins, study guides, etc., to aid teachers in locating and using films.

A Director Is Needed

Once the number of schools wishing to participate has been ascertained and the organization effected, the next step is to select a director. Any successful organization requires leadership. The director will be the moving force behind the library. Without capable leadership, the library is just another collection of inert materials. The selection of the proper kind of person will have a great deal to do with the success or failure of the film library. Nor should he be a part-time worker whose main job is elsewhere. Operating a cooperative of any sort cannot be turned over to an already overburdened person. Most film libraries have found it advisable to employ a director full time, as soon as the project becomes large enough. Money spent on salary for a director will be returned many times in better service, utilization, and over-all operation of the film library. The person selected for this position should be more than one who can run a projector or who knows how to use a camera. The ideal director should have had experience in curriculum planning, extensive teaching experience, as well as experience with all types of audio-visual aids.

The Director's Job

To this person will fall the task of handling the many problems and details which in the final analysis make the library a success. Whether this person is employed full time or only part time, he should be responsible for:

1. Organizing and administering the cooperative film library.
2. Preparing and editing the film catalogue and bulletins.
3. Supervising the distribution and maintenance of films.
4. Keeping accurate records of distribution, maintenance and operating costs.

5. Working with curriculum committees and other teachers to bring about the best integration of the film into the curriculum.
6. Providing adequate in-service education so that teachers can become acquainted with the mechanics and use of these new materials.
7. Working out plans for suitable storage of films,
8. Keeping up-to-date with new films and providing opportunities for preview of these materials.

Getting Started

Having selected the person to direct the work of the cooperative, the next step is to put it into operation.

The question of financial support must receive early attention. Two methods are commonly used to finance cooperative libraries; one, where each member buys a predetermined number of films and contributes them to the cooperative; the other, where member schools contribute a predetermined sum of money. In the latter case, this sum should be fairly generous. Too often in considering finances for the library, only the original purchase price of films is taken into account. Running an efficient film library involves other costs besides those of the initial outlay for films; money must be provided to pay salaries, to replace worn out or damaged film, to print handbooks, etc. Some cooperative libraries have made the fatal mistake of not providing funds for these items and, in consequence, have run into trouble trying to keep the library operating.

Where schools contribute films to the library instead of money, it should be decided at the outset just what disposition will be made of films contributed, should the school wish to withdraw from the library. Some libraries allow schools to withdraw their films, while others pay the school for films contributed, after deducting a certain amount for services rendered. In order to avoid any misunderstanding,

contracts with each school should be worked out in advance. The advice and counsel of an attorney should be secured in preparing these contracts. Time spent in working out these preliminary problems of the library will avoid trouble in the future development of the cooperative.

The number of films necessary to start an adequate film library will depend on the number of schools participating. Enough films should be available to supply the needs of the schools. At the outset, it is a good plan to purchase film titles which fit into areas of the curriculum where the greatest definite need has been expressed. From past film utilization reports of the individual schools, one can get a good cross-section of such needs.

Almost all of the major producers of educational films have worked out plans whereby schools and groups of schools (including cooperatives) can purchase a large initial quantity of films with which to start a library, amortizing the cost of such films over a period of from two to five years. In order to avoid the legal complications involved for schools in signing a continuing payment purchase contract, these deferred payment plans generally are in the form of an annual lease which is renewable each year thereafter. In all cases, the school or cooperative ultimately pays the total list price of the films plus an interest charge of five or six per cent on the unpaid and deferred balance; at the end of the period, the films belong to the school.

The discussion, so far, has been based on the idea that each school is in a position to pay an equal amount to the creation and support of the cooperative library regardless of size or financial status. In many instances this kind of financial organization will work a hardship on the smaller school. In order to overcome this handicap, some cooperative libraries have based the matter of finance on the size of the school. This seems logical since the larger school will be likely to demand more service than the smaller one, and, therefore, should pay a greater share of the cost. Besides, it usually

has a larger budget for school supplies. The ability to pay can be based on the average daily attendance of the school or the number of teachers employed in the system.

How the money is actually raised by the school system or the individual school to pay its membership is also worthy of some consideration. Some schools have sought to finance their cooperative membership by securing funds through carnivals, P.T.A., or Community Club gifts, student body funds, etc. It would be much better for the money to come from tax funds. The school board should finance the total cost of membership for a number of reasons. In the first place, this puts the library on a sound financial basis. In the second place, having the money contributed by the school district, makes the audio-visual program an integral part of the educational process. Under such an arrangement, audio-visual aids would be accepted as a necessary, almost mandatory part of classroom equipment. Furthermore, the inevitable expansion of the library would meet with fewer obstacles if the funds came from the district rather than from the P.T.A., or other sources.

Selecting Needed Films

Once the contractual and legal aspects of the cooperative are completed and a director chosen, the selection of the films is the next step. It goes without saying that films should be selected in terms of curriculum needs. The various curriculum areas should be studied and a tentative list of films drawn up to correlate with them. This list will be used by the teacher committees in selecting films to be previewed. The time spent by committees in previewing and selecting films is very worthwhile, for there is no better way to acquaint teachers with the kinds and types of films available. It is a good plan to use as many teachers as possible on these committees, as it will help to interest them in the new library and acquaint them with its contents. A form, similar to Fig. 1, should be used to guide commitees in selecting films.

FIGURE 1

AUDIO-VISUAL AID EVALUATION

Visual Education Department
Portland Public Schools

Title..... Date.....

Type Aid· Sound Film ☐ Silent Film ☐ Slides ☐.....

Producer.....

.....

Length ..... No. Reels ..... Time ..... Cost ..... Period .....

Maturity Level: Primary ..... Intermediate ..... Secondary .....

Useful in Units on: .....

.....

Educational qualities:

1. Accurate and authentic	Yes ☐	No ☐
2. Presents vital facts	Yes ☐	No ☐
3. Motivates learning	Yes ☐	No ☐
4. Stimulates pupil activity	Yes ☐	No ☐
5. Correlates with curriculum	Yes ☐	No ☐

Production Qualities:

1. Photography	Good.....Fair.....Poor.....
2. Continuity	Good.....Fair.....Poor.....
3. Sound	Good.....Fair.....Poor.....
4. Titles	Good.....Fair.....Poor.....
5. Vocabulary	Good.....Fair.....Poor.....

Rating: Good..... Fair..... Poor.....

Would you recommend Purchase? Yes..... No.....

See comments on back of card.

Locating the Cooperative

The location of the film library will to some degree determine its effectiveness. Although a majority of teachers will order their material by mail, a large number will visit the library if it is within a reasonable distance of the school. Teacher visitation to the film center has the advantage of enabling the teacher to preview and select the films she needs.

The following factors should be taken into consideration in locating the film center:

1. *Transportation*: As most films will be distributed either by mail or express, it is important that the library be located in an area where these services are adequate. If teachers are to be encouraged to visit the department, the library should be located near the geographical center of the area being serviced. Good highways, rail and bus transportation will play an important part in promoting a better acquaintance with the film library.
2. *Space*: Enough space should be available to provide room for housing, maintenance, and shipping of film. Facilities should also be provided for preview of films, and some thought should be given to future growth of the film center. In the beginning, space for the library will not be any great problem since the number of films to be handled will not be great, but as the department expands, and it will from year to year, more room will be needed. It is well to anticipate this natural growth, and make ample provision for storage, shipping, maintenance, and booking. In addition to these primary considerations, some thought should be given to office facilities. If possible, the library should be located on the first floor. This will avoid a great deal of labor in handling films and equipment. As the library increases its circulation, the wisdom of the ground level location will be even more apparent

Some cooperatives have been located in a county-seat library. If this is possible, it has the advantage of requiring the teacher to make one less step in getting needed materials. Many county libraries maintain a delivery service for books, and in many instances films can be delivered on the same circuit. The cooperation between the film center and the library is a logical one and should be encouraged.

Outfitting the Film Library

Adequate equipment is needed if the handling of films is to be done efficiently. Money spent in providing film racks, splicers, rewinds, card files, etc., will pay dividends in better service to members and longer life to films. Proper racks should be provided for storing films. These racks should be constructed so that films are easily accessible. They can be constructed by the industrial arts shop or the local cabinet maker. In addition to film racks the following equipment should be provided:

1. Film splicer. This should be a heavy duty splicer as many of the splicers designed for home use will not stand up under the continuous operation of a film center.
2. Film rewinds. Select heavy duty rewinds. Light weight amateur models will not stand up under heavy work.
3. Film shipping cases.
4. Card file 3"x5", 5"x8" or larger, depending on type of forms used.
5. Typewriter and other office equipment.

Cataloging and Handling Films

In the initial planning it is well to decide on a system for cataloging films which will be suitable, not only for the small number of films initiating the program, but also for the more complete library as it expands. There are many

different methods which can be used to catalog films. Some libraries use a modified Dewey-decimal system, while others classify their films according to areas in the curriculum. Before deciding on a particular method, it is a good plan to obtain film catalogs from a representative group of film libraries and consider the merits of each system.

A card index system is the easiest and simplest method of cataloging materials in a library. A 3"x5" card is large enough to include the information desired. A larger card can be used if more detailed information is desired. Figure 2 is a sample of a catalog card. It includes such items as producer, date, running time, sound or silent, black or white, suggested grade levels and description of the contents. Cross index cards should be made to facilitate easy location of films for particular curriculum areas.

FIGURE 2

Sound Film **PRIMARY** Shelf No. 15

OUR FOSTER MOTHER, THE COW (C) 10 min. Grade *Primary*

Portrays the happenings on a dairy farm stressing the care of the animals, and the service rendered to mankind through the product, milk.

Primary — Frith Films
Health — 1943

A printed or mimeographed film catalog listing all films should be prepared for each library member. The catalog should include directions for ordering, returning, and the care of films and equipment. The description of the film should be brief, but sufficiently detailed to give the teacher enough information on which to base a choice.

A booking card system which provides a complete rec-

Title _____ Copy _____ Length _____ Introduction _____

Grade Level _____ Location No. _____

Received _____ Price _____ Producer _____

Synopsis _____

Times order could not be filled:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Remarks
Sept.	•	•					•	•						•	•						•	•						•	•			
Oct.					•	•					•	•							•	•						•	•				
Nov.		•	•						•	•						•	•						•	•				•	•		
Dec.	•						•	•						•	•						•	•						•	•		
Jan.				•	•						•	•						•	•						•	•					
Feb.	•	•					•	•							•	•						•	•								
Mar.	•	•					•	•							•	•						•	•						•	•	
Apr.				•	•						•	•							•	•						•	•				
May			•	•					•	•							•	•						•	•						•	
June	•						•	•						•	•						•	•						•	•			
July				•	•						•	•							•	•						•	•				
August		•	•						•	•						•	•						•	•						•		

FIGURE 3

ord of all schools using films and their bookings for films should be planned. Figure 3 is an example of such a booking card. When requests are received for films, they are posted on this card. Holidays are marked off as indicated by the crosses. This type of card has the advantage of giving complete information for recording circulation and keeping track of film.

Request blanks for films should be provided all teachers. This blank, Figure 4, should be made out in duplicate and sent to the library. The film-booker can confirm the order on the duplicate copy. The matter of confirmation of bookings is very important as a teacher must know whether she is going to receive the film on the date requested.

Many other forms, such as shipping and return labels, evaluation, damage reports, etc., have to be devised in order to make the library function smoothly. For more detailed information on forms, cabinets, etc., references 6 and 12 at the end of this chapter are recommended.

Delivery of Films

Cutting the amout of time that films are in transit is important. The more efficient the distribution system, the more times the film can be used. Parcel post, mail, express, and bus are ways now being used to distribute films. Express rates are higher than mail, but express has the advantage of pick-up and delivery.

After the Film Library—What Next?

The discussion in this chapter has dealt only with films. The forming of a cooperative film library is perhaps the easiest and most practical method of getting schools to initiate the first step in an audio-visual program, but this is only the first step. All human progress has to move step by step, and the development of an effective audio-visual program is no exception. The problem of getting instructional

SCHOOL..... TEACHER..... DATE WANTED.....

REQUEST FORM—AUDIO-VISUAL AIDS—PORTLAND PUBLIC SCHOOLS

SEND IN TWO COPIES TO VISUAL EDUCATION DEPARTMENT. 631 N. E. CLACKAMAS ST.. PORTLAND 8, OREGON

MP		MOUNTED PICTURES	SdF SiF		FILMS
LS		LANTERN SLIDES	TR REC		RECORDS & TRANSCRIPTIONS
FS		FILM STRIPS			OTHERS

THE "CHECK" INDICATES ITEM WILL BE SENT ON DATE WANTED

FIGURE 4

materials for a modern school is becoming a complex one. When the textbook was the primary medium of education, the problem was relatively simple. Today, with teachers asking for motion picture films, filmstrips, transcriptions, books, recordings, exhibits, models, etc., the story is different. Some organization must be set up to take care of these needs. It seems logical then that the cooperative film library might be the nucleus of a complete instructional materials center for the area which it serves. In time it will include every form of learning aid which an advancing science can provide.

Only by looking towards such a center for all instructional materials can we expect the teacher to use these teaching tools in a properly balanced manner. When they are housed in separate departments, certain tools tend to get in the spotlight because of their inherent nature. When they are distributed from one central depot, the teacher can be guided to evaluate the effectiveness of different aids and choose the one that best fits a specific need. Teachers should not rely on one type of teaching tool for all learning situations as they once did with the printed text book. They must realize that a rich learning environment requires all types of teaching materials and equipment.

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CHAPTER XXXVI

SERVING THE COMMUNITY'S NEEDS

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We live in an organized society. Every community is proud of its civic, fraternal, service, business, religious and social organizations. All function to make the community a happier and more profitable place in which to live. As we analyze the program of these organizations, we discover that many of them devote some time to the discussion of various types of problems as they affect the lives of the people in their respective communities. Today, as a result of the wide publicity given the educational motion picture and other audio-visual materials in magazines, over the radio, and in newspapers, these community organizations are seeking information about these popular educational tools and are looking for leadership to assist in introducing them to their membership. However, in many communities there is no one responding to this call for leadership and guidance. Here then is the challenge.

Let us assume that within the next five years every school system in the community will have available professional personnel with special training in the selection, use, administration and production of audio-visual teaching materials. This individual may be a full-time director of a center of audio-visual teaching materials, or he may be devoting only a part of his time to the work. His function will be to

coordinate the use of all types of audio-visual teaching materials with the curriculum within the school system. He will be trained to provide professional guidance to all members of the teaching staff and to leaders of adult groups in his community in the use and application of the various types of mass media of communication.

Assuming, then, that the educational institutions in the community are in a position to provide the necessary leadership in extending the use of audio-visual materials to community organizations, what are some of the problems which need to be discussed to help bring about a desire on the part of our educational leaders in our communities to meet this urgent challenge that confronts them?

Problem 1. What out-of-school groups would be interested in the use of audio-visual materials? In every community, no matter how small, we find various organizations including clubs and civic groups such as Rotary, Lions, Kiwanis, P.T.A., League of Women Voters, Chamber of Commerce, Jr. Chamber of Commerce, A.A.U.W., Girl Scouts, Boy Scouts, trade unions, co-ops, fraternal organizations, garden clubs, art clubs, YMCA, YWCA, YMHA, music clubs, BPW, youth centers, community centers, welfare organizations, political organizations and patriotic organizations; rural groups which include county and home demonstration units, granges, co-ops, and the FFA; professional groups organized by doctors, dentists, editors, engineers, lawyers, accountants, architects, artists, and musicians; government groups organized by local, county, state and national officials; business and industrial organizations; and groups made of amateur movie makers.

Problem 2. What educational contributions could audio-visual materials make for these community organizations? During World War II audio-visual materials were made for purposes of indoctrination, morale, selling war bonds, presenting to the American people the reasons for rationing, and to combat juvenile delinquency and black markets. Educational

film materials were received as powerful tools of learning. They were acclaimed by leaders of our armed forces and by the men and women on the home front as effective tools of mass communication. We are now wrestling with manifold postwar problems. Again our community leaders are calling on these powerful tools to assist them in carrying forward an effective educational program. They fully realize that by means of films they can make ideas dramatic and exciting enough so that the members will want to learn more about them. Audio-visual materials can help remove the barriers of democracy including illiteracy, indifference and irresponsibility, lack of understanding of the democratic principles, ignorance of history, ignorance of science and technology, physical and mental infirmities, and social inflexibilities. With these tools important issues can be spotlighted for further discussion and skills can be clearly demonstrated. These educational materials stand ready to play their important roles in the community's educational program.

Problem 3. Why are out-of-school organizations not making more use of audio-visual materials? First of all, it must be recognized that very few community groups have projectors at their disposal with which to project films. Adult education leaders do not have the opportunity to get acquainted with the various educational film resources which would contribute to their programs. Sources of educational films are unknown to many program chairmen. Effective techniques of utilization have not been demonstrated to them. Lack of criteria for evaluating films suitable for adult use oftentimes prevents proper selection of good material. Competent professional leadership is needed to provide guidance and direction in assisting group leaders to program film materials successfully.

Problem 4. How can the schools provide leadership in assisting adult groups in selecting and programming audio-visual materials more successfully; in providing projection

facilities and skilled operators and in making available instructional resources to assist leaders in learning more about the use of audio-visual materials? We may assume that within the next five years nearly all of the schools will have professionally-trained film librarians who have been assigned by the administration to schedule audio-visual materials for classroom use. In some cases, it may be a director devoting full-time to the work; in other cases, it may be a part-time supervisor, or in other instances, a committee might be in charge of the work. These trained leaders have had experience in the administration of the school's audio-visual program. They will have had contact with many types of informational films and will understand how to program them for school and out-of-school use. They will have established files listing various sources of these materials and, in many cases, will have prepared bibliographies of selected films for special interest groups. Many of these leaders will be personally acquainted with the objectives of community organizations and will, therefore, be in an excellent position to suggest suitable materials for programming purposes.

Let us illustrate how such a director or coordinator might assist the program chairmen of some community organizations in programming a film. In many communities, the Lions, Rotary, and the Kiwanis clubs meet every week for a luncheon or dinner meeting followed by a thirty-minute educational program. This particular week, the director or coordinator of the school has a film on atomic energy scheduled for the high school's convocation program. He might contact the program chairmen of the local service clubs some weeks in advance and suggest that they plan to use this film for their program, realizing that the groups would be very interested in the information presented in this particular film. This type of programming might be duplicated in many other cases with other organizations.

In many communities the school director or coordinator

will want to prepare a file in which will be catalogued selected audio-visual materials that meet the needs of the organizations in his community. Such a file would contain lists of various types of materials, a simple annotation of each, and, wherever possible, program chairmen will have access to these files and be in a position to select and program specific materials of special interest to their constituency. Rental sources will be listed for each unit of material. Since the school already is in contact with many of these sources of materials, it would be in an excellent position to order the materials for the organizations.

Most organizations do not have their own projection equipment nor are trained operators available. Here again the school has the projection facilities and the skilled operators to provide a projection service on a cost basis. Materials and equipment can be scheduled in advance and student personnel, in many cases, can be called upon to assist in this work.

Problem 5. On what basis can boards of education and school administrators justify this expanded program of educational service? The school is a community service institution. Justification for its existence rests upon the confidence the community has placed in it to provide the necessary educational leadership for both young and old. It has the responsibility of exploring each scientific tool of learning to determine what role it might play in providing educational experiences for the citizens of the community. Now that the educational motion picture has been accepted and acclaimed as one of the most powerful scientific aids to learning, the school must be vitally interested in setting up administrative machinery to share its advantages with all the members of the community. The acceptance of the educational motion picture and other audio-visual materials by the community as powerful tools of learning is a challenge to the school's administrative officials to arrange for their use by community

organizations. Added expenses for equipment, materials, and operators can be justified on the basis that here we have new instruments of teaching which can contribute much toward the educational growth of the citizens of the community. Experience has shown that wherever educational institutions have provided leadership in extending the use of audio-visual materials to the community, the costs involved were willingly shared by the organizations receiving the benefits.

We must always remind ourselves of the relationship that exists between the school and the community in which it functions. Too often the school has considered itself a servant of the people only to the extent of providing educational leadership for the younger generation. Few organized educational activities for adults were planned, administered, and supervised under the school's direction. However, public opinon today seems to favor a more aggressive leadership on the part of our school officials to provide educational opportunities for all citizens, young and old. Taxpayers supporting the schools are realizing that educational needs exist for all age levels. Education is a continuous growth process, and it is the school that is best equipped to provide the opportunities for learning.

Assuming that the school authorities accept this new responsibility, what are its implications for wider use of audio-visual materials? It simply means that in order to provide educational experiences, all the available tools to do the job must be utilized. It seems logical to call on the various media of communication to assist in this gigantic task. The educational motion picture, various types of still pictorial materials, audio materials including transcriptions and recordings, all need to be recruited.

The educational leaders of the community must remove all barriers that prevent the use of these materials by the entire community. School officials must realize that by using and administering these media of communication on a com-

munity-wide basis, they can strengthen the prestige of their institution in the eyes of the people supporting it. It would seem safe to assume that, if the schools are willing to accept the responsibility of programming audio-visual materials for adult groups in the community, the results achieved by such action would bring about a stronger support for the total program of the school and would make the community very conscious of the efforts the school is making to meet its educational needs.

Problem 6. How should this expanded program be administered and financed? In the case of the small community, the school film librarian might notify the program chairmen of out-of-school groups about certain educational films, which the school is using, and which might be of equal educational value to their membership. In large communities, where a more extensive film service is provided to the schools, the film director might set up a special community service as a separate function of his department. The purpose of his service would be to extend the resources of his department to the adult groups of the community or region.

A survey should be made to determine the names of the organizations that are functioning in the community. This study should discover what the interests are of each group and in what educational projects each is engaged. A file should be kept listing the names of each organization, its officers and their addresses. This file should be periodically checked and corrected. Community Chest organizations and the Chamber of Commerce usually keep a complete file of all the functioning organized groups of the community. With a complete listing of all the major organizations which might be potential users of educational films, the director should prepare a bulletin or newsletter informing each group of the services his department is prepared to render.

What are some of these major services? The director

should be in a position to analyze the film needs of each group and recommend film titles which would be effective and useful. He should know the sources from which these films are available, if they are not a part of his institutional film library. He should be prepared to book the requested films from other libraries.

Most organizations do not own their own projection equipment. In order to adequately serve these groups that do not own their projectors, the director should organize a projection service. This will require special equipment, a portable screen, lenses of various focal lengths, and competent and trained operators.

The local newspaper might cooperate in this community service by publishing periodically a list of educational films that are available from the film library. When new films arrive at the library which are of interest to the adult group, a brief review of each might be published in the newspaper. The director might issue a periodic bulletin to each organization listing all new titles that have been accessioned, their length, a review of each, the name of the producer, and their rental cost. Many organizations maintain their own news organs. Here the director has the opportunity to utilize another excellent informational resource to inform interested groups about available resources. Most organizations are very happy to cooperate in this project.

Each community participates in a series of local, state, and national campaigns. Today many national organizations produce educational sound films to inform local communities of their activities. Here again the educational film librarian can offer his facilities and render a valuable service in promoting wider dissemination of vital information so important to the success of the local campaign.

Every added educational service costs money. In this case, there will be an added outlay of money for projection equipment, materials, and personal services. Most schools

have projection equipment provided by regular school funds. The community through its taxes has already furnished this capital equipment. Would it not be possible to use this same groups at a time when it is not being used by the school? There may be some depreciation charges that need to be assigned to these out-of-school showings. Projection lamps are used up. Parts need replacing. It would seem logical to assign a small service charge to the organization using the equipment. An operator is needed to project the materials. In some cases, this person might be the director or coordinator of the school's audio-visual program. In other cases, it might be a trained student projectionist. Again it seems fair to assign an operating charge to the organization to cover the labor costs involved.

Audio-visual materials must be scheduled. These may be purchased or rented. In some cases, the schools may own these materials. In other cases, they will have to be rented from outside sources. Administrative machinery should be set up by the school to assist community leaders to select materials from various sources to book them for the dates requested; to confirm all requests; to receive the materials from the supplier; to advise the user of their receipt; to project them; to return the materials to their sources, and to bill the user for the service charges assigned to the materials by the supplier.

In some cases, this community-wide service will require additional staff, personnel and equipment. The director of the school's center of audio-visual materials or the coordinator should set up a budget which will incorporate the needed personnel, the equipment and the materials needed to provide efficient service for the school as well as for the community. That portion of the budget which has been assigned to community service should be provided by the community organizations using the school's facilities.

It might be well to illustrate how such a community

service might be financed. Let us assume that a service club calls the school and requests a thirty-minute luncheon film program. The school orders the films from a film rental library and discovers that the service charges and transportation costs for the films amount to $3.50. An operator must be assigned to the equipment. He is paid $1.00 for this particular projection. Another $1.50 is charged for the use of the equipment and screen. The total cost for the program is $6.00. The school bills the club for this amount at the end of the month. The members of the club feel that the school has rendered a valuable professional service.

Problem 7. What are the criteria by which to evaluate effective community educational film service? This is essential to provide a yardstick whereby a community film service might be evaluated. The following points might be considered:

1. Is the individual who is in charge of the service well acquainted with the educational interests of the organized groups of the community?
2. Is he informed of the various audio-visual materials which are available and which are suitable for the organizations?
3. Are adequate provisions made by the administration to supply the necessary funds to administer a community film service?
4. Are community organizations kept fully informed about available film resources?
5. Is sufficient staff provided to administer the program efficiently?
6. Are projection services provided to organizations not having these facilities available?
7. Are community leaders given the opportunity to preview audio-visual materials wherever this is possible?
8. Are guides made available to assist community leaders in using audio-visual materials more effectively?

9. Are catalogs and bulletins listing sources of audio-visual materials kept on file for use by adult leaders of the community?
10. Is a consultation service provided by the director of visual education to program chairmen of community organizations to assist them in programming their audio-visual materials?
11. Is the director of visual education in a position to order audio-visual materials from other sources for adult groups of the community?

Problem 8. How can this service be integrated with other community agencies interested in the dissemination of ideas by means of audio-visual materials? In many communities there are a number of agencies that already have equipment to use audio-visual materials. Some of these organizations own their own basic library of materials. In some cases, they have a trained staff with experience to program audio-visual materials. It should be the responsibility of the director of visual education to become acquainted with these various resources and, whenever possible, to supplement this service. In some cases, the audio-visual materials provided by these community organizations might become resource material for other community groups. It is the director of visual education who can be of assistance in coordinating the use of all available community resources and inform community leaders of their availability. In some cases, the community agency might own and control just a few selected types of audio-visual materials. In this case, it is the school director who should provide these groups with additional resources to supplement their basic library.

Public libraries in many communities are assuming the responsibility of distributing audio-visual materials. Wherever this added service is provided by the city library, it would seem reasonable to expect that the director of visual education would cooperate to the fullest extent in promoting the widest

use of its resources in the community. We might assume that during the next five years the production of audio-visual materials will increase to the extent that no single distributing agency in a community can satisfy the demands made upon it by the organizations in that area. Any agency interested in providing audio-visual services should certainly be encouraged by the school director. There should be no monopoly by any single agency in providing the important function of disseminating information through audio-visual materials.

Problem 9. How can the director of visual education assist community leaders in securing additional information which will help them in programming audio-visual materials? Isolated as they are from the non-theatrical film resources, the program chairmen of the various community organizations must rely upon qualified professional leaders to supply them with information about source material and programming techniques. The director of visual education is in an excellent position to arrange demonstrations and previews of new materials for the program chairmen of the community organizations. Institutes might be arranged which will provide opportunities to study patterns of good film utilizations. Such institutes might also provide opportunities for getting acquainted with the newer types of projection equipment and new sources of materials.

The director of visual education might be instrumental in cooperating with community leaders in the organization of a local film council for the purpose of stimulating greater interest in the dissemination of information through audio-visual materials. It is through such an organization that trained leadership might be developed in extending the use of audio-visual materials to more community groups. From the school director, community leaders might secure information about sources of materials. Catalogs and bulletins from various libraries might be displayed and made available. These might include: *The Educational Film Guide* (H. W. Wilson Co.,

950 University Avenue, New York 52, New York); *The 1000 and One Catalog* (Educational Screen, 64 East Lake Street, Chicago, Illinois) and *The Educator's Guide to Free Films* (Educator's Progress Service, Randolph, Wisconsin).

Adult education leaders are also interested in securing suggestions to assist them in programming materials more effectively. Here again the educational film librarian is in an excellent position to suggest materials that might be helpful. The following list of selected materials might be of assistance in guiding leaders of community organizations in formulating a successful pattern for using audio-visual materials:

MAKING FILMS WORK FOR YOUR COMMUNITY
FILMS FOR INTERNATIONAL UNDERSTANDING
Educational Film Library Association
1600 Broadway, New York City 19

FILM FORUM GUIDE
Bureau of Visual Instruction
University of Wisconsin, Madison 6, Wisc.

HOW TO CONDUCT A FILM FORUM
LOOK, LISTEN AND LEARN
Association Press
347 Madison Avenue, New York City 17

MOTION PICTURES IN POSTWAR EDUCATION
American Council on Education
744 Jackson Place, Washington 6, D. C.

FILM FORUM REVIEW (*published quarterly*)
Institute of Adult Education
525 West 120th Street, New York City 27

TALK IT OVER
National Institute of Social Relations
1029 — 17th Street, N. W., Washington 6, D. C.

PUBLIC AFFAIRS PAMPHLETS
National Committee on Atomic Information
1749 L Street, N.W., Washington 6, D. C.

CHAPTER XXXVII

THE SELECTION AND EVALUATION OF FILMS

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The selection and evaluation of educational motion pictures are inseparably linked with the curriculum, with utilization, with administration, and with the production of improved educational films. To lose sight of these relationships is to place these activities in a vacuum and in a sphere where they become pure intellectual exercises. But it is convenient, for purposes of exposition, to deal with selection and evaluation in a separate chapter. Perhaps, as a result, many people will turn to this chapter, if selection and evaluation are their special problems. As such, it is important to emphasize the relationships of these activities to those outlined in preceding chapters, if selection and evaluation are to have a meaning. Our chapter could logically come in the first part of the present volume, too, for selection and evaluation are both the beginning, as well as the ending, of all activities that have to do with the use of motion pictures in education.

The Place of Selection

Too often, selection and evaluation, in the administrative program, have been added on, as consciously directed processes, after distribution and exhibition have been carried out. Then, if the teacher or supervisor had time, attention would be given to appraising the results of motion pictures use and some evaluation take place. We are all familiar with

the fact that those things which cost money receive the most attention. We are sometimes less concerned, until it is too late, with those things which cost learning, and with which, paradoxically, we, as teachers should be the most concerned.

Actually, a better job of utilization can be done and a better allotment of funds for visual instruction made when more attention is given to proper selection and evaluation. Reposing on the shelves of many libraries, or, worse, running through the projection machines of the schools of the nation, are numerous films for which good money has been spent and for which our pupils are receiving little learning in return. Some of these films might be reclaimed for valid educational utilization if we knew a little better what we were using them for. It is necessary, then, that we take stock of where we are, where we wish to go, and for what ends we teach with educational motion pictures.

Definitions

Selection and Evaluation; what are they? Do we know what they mean? Webster is often a help. "Selection: to take from a large number by preference," "Evaluation: to find and fix the value of." When we take from a larger number by *preference,* this preference must have some basis. We make some *evaluation* to determine what our *preference* shall be. The basis of preference, then, is evaluation, and for purposes of simplicity, we may speak of *selection* and imply *evaluation.*

Levels of Selection

Our concepts of selection are sometimes a little muddled, when applied to educational motion pictures, because we, too often, attempt to set a certain pattern for selection rather than conceiving of the process as going on at various levels, from the relatively simple to the relatively complex. Selection can be a grab-bag proposition, or a matter that we sit up all night thinking about, or an activity with all shades

of importance in between. The lowest level of selection sometimes occurs when a producer decides to place a particular film on the educational market. Prior to the production of this film, however, a much higher order of selection as to script and production effects has been undertaken. Further low level selection occurs when films are bought by lending libraries for distribution, although this varies from place to place.

The teacher first enters the selection process directly when she selects one particular film from a catalog for possible use in her class. Since titles are sometimes misleading and film catalog descriptions often no more than producer's blurbs, this is often little short of a grab-bag procedure. Does the teacher then show this film to her class without further ado? It happens in too many cases. Does the administration favor and foster previewing activities prior to actual class showing? It may not be completely the teacher's fault. In the enlightened audio-visual program, all class materials are reviewed in advance.

On the basis of preview, undertaken in connection with a review of purposes, methods, and class personnel, the teacher may make a higher level type of selection. This selection has as its basis a preference founded on tentatively "fixing the value of" this particular film for her class. The film may not be at all appropriate. In the well conceived administrative program, the teacher should then have no qualms about not using the film, even though a healthy rental fee is involved.

But if the film does *seem* appropriate, she may use it. How she uses it is, of course, logically linked up with what she selected it for, and this utilization forms a partial basis for the final and highest level of selection. Before using the the film, the teacher *fixed,* tentatively, the value of the film, and selected it for use on that basis. Following utilization, she may review class progress as a result of this utilization,

find the value of the film for her purposes, and more or less permanently *fix* the value of that film for use in similar instructional situations. On the basis of this final, highest level evaluation, the teacher will select this film for future use. Thus, it may be seen that selection is not just one process but several processes, operating at levels determined by the amount of information the teacher, or another person, has on which to make a valid choice.

Kinds of Selection

Thus far, we have dealt somewhat generally with the matter of choice or selection. What are some of the considerations which go to make selective activities the important processes that they are? We may consider the following to proceed from the lower to the higher levels in complexity and importance. Comprehensiveness, however, is perhaps more important than mere order of importance.

1. Selection on the basis of production merit. The early, erroneous belief that a double standard existed for educational and entertainment motion pictures is gradually being dissipated. We realize now that a motion picture is a motion picture, whether viewed in a darkened classroom or the plush and chrome luxury of the corner Rivoli. Good camera technique is the same in both places. Understandable, undistorted, realistic sound strikes the ear the same in *Eggs* as in *The Egg and I.* It is important, then, to select films which the class may accept as standard in this important medium of communication. The film must be well conceived, well executed, and true. Anything less is a disservice to the educational screen.

2. Selection with respect to curricular aproaches. We no longer have just one curriculum in the schools, if we ever did have; there are many, each with its own particular requirements as to the nature of instructional materials which

may be most effectively utilized. From the sometimes narrowly conceived subject-matter approach, through the broad fields and the problems of living, to the vagaries of the completely student-centered "needs" curriculum, lie a wide variety of instructional needs. The recognition and definition of these needs is important indeed to the selective processes.

3. Selection as to subject-matter areas within curriculum types. The broad selection as to curriculum types is but the prelude to the more complex selection as to subject matter areas and the assignment of specific titles to particular areas of concern.

4. Selection with respect to grade-level. This is an obvious need in the selective processes. Films must be related to the comprehension level of the students that see them, to their interests, and to their needs.

5. Selection with respect to socio-economic areas. Films may be categorized as to interests and needs in rural and urban neighborhoods, agricultural communities and manufacturing centers, geographical areas, national differences, and other considerations.

6. Selection on the basis of children's interests and needs. Of all the basis of selection, it is perhaps this one which has been most neglected in the past: ". . . the accent in educational films must be softened on the organization and presentation of material in the pure logic of its subject-matter relationships, and must be heightened on the relationship of that subject-matter to the daily lives of the audience, including its rate of learning, the things in which the audience is or should be interested, and the changes in behavior that are to be expected as a result of the film presentation."[1]

Consensus of Others

Numerous writers and texts in the field of audio-visual

[1] Hoban, Charles F., Jr. *Movies That Teach.* New York: The Dryden Press, 1946. p. 69.

education are agreed on certain broadly conceived standards of educational film selection.[2] Adapted from Devereux's "Checklist for the Educational Talking Picture,"[3] the following listing indicates this agreement:

Objectives of the Good Educational Film

1. Its purposes are clearcut and obvious to the intended audience.

[2] American Council on Education. *Introduction to the Evaluation of Motion Pictures in General Education.* Washington: American Council on Education. p. 5.
Brunstetter, M. R. "Selecting Educational Talking Pictures," *School Executive,* August, 1935. Pp. 364-5.
Corey, Stephen M. "Teacher Evaluation of Classroom Motion Pictures." *Elementary School Journal,* February, 1945. Pp. 324-7.
Dale, Edgar. *Audio-Visual Methods in Teaching.* New York: The Dryden Press, 1946. Pp. 500-507.
"Standards for the Selection of Classroom Motion Pictures." 13th Yearbook, *National Elementary Principal,* June 1934. Pp. 344-8.
Doane, Donald C. "What Makes a Good Educational Film?" *Educational Screen,* September-December, 1936. Pp 203-6, 239-41, 271-3, 305-7.
Ellis, Don Carlos, and Thornborough, Laura. *Motion Pictures in Education.* New York: The Crowell Co., 1923. Pp. 91.
English, Mildred, and Stratemeyer, Florence B. "Selection and Organization of the Materials of Instruction." Department of Supervisors and Directors of Instruction, *National Education Association,* 1935. Pp. 29-48.
Findlay, Bruce Allyn. *Participation: The Last Word in Films.* Los Angeles: City Schools Publication Number 384, 1942. Pp. 8-19, 34.
Freeman, Frank N. et al. *Visual Education.* Chicago: The University of Chicago Press, 1924. P. 74.
George, W. H. *The Cinema in School.* London: Sir Isaac Pitman and Sons, Ltd., 1935, P. 66.
Gregory, W. M. "Standards of Geographical Films for Instruction." *Educational Screen,* March, 1940. Pp. 95-6.
Hartley, W. H. *Selected Films for American History and Problems.* New York: Bureau of Publications, Teachers College, Columbia University, 1940. Pp. 4-20.
Hoban, Charles F., Jr. *Focus on Learning.* Washington: American Council on Education, 1942. Pp. 45-66.
Hoban, Charles F., Jr. et al. *Visualizing the Curriculum.* New York: The Cordon Co., 1939. Pp. 131-2.
Jenson, H. R. "Standards of Visual Materials of Instruction." *Educational Screen,* May 1940, p. 198.
McKnown, Harry C., and Roberts, Alvin B. *Audio-Visual Aids to Instruction.* New York: McGraw-Hill Book Co., 1940. Pp. 165-7.
Scottish Council for Research in Education. *The Assessment of Educational Films.* London: The University of London Press, Ltd., 1940. Pp. 12-16.

[3] Devereux, Frederick L. *The Educational Talking Picture.* Chicago: The University of Chicago Press, 1935. Pp. 204-210.

2. The objectives are closely associated with those of the curriculum.
3. The objectives are those which may be adequately exploited by the medium.
4. The objectives are sufficiently limited to assure adequate treatment.

Content of the Film

1. The content fits the curriculum.
2. The content is compatible with the interests of the intended audience.
3. Every effort is made to tell the truth.
4. The content is up-to-date.

Organization and Presentation of Content

1. The organization of the content is designed for maximum comprehension and assimilation; difficult concepts are sufficiently detailed in presentation.
2. The presentation is designed to arouse and sustain interest.
3. The presentation implies desirable relationships with associated fields of interest.
4. The summary is adequate and acts as a springboard to further learning activities.
5. Technical aspects of production are of the best.

The Armed Forces

Reference to the armed forces training film program during World War II reveals similar agreement and extended concern with standards of film selection and production. Using Orville Goldner's "Training Film Formula"[4] as an expository vehicle, Army and Navy viewpoints are brought together in the following outline. These are the ingredients in the order of their application to the Training Film Formula:

[4] Goldner, Orville. "The Training Film Formula," *Business Screen*, Vol. 5, No. 5, 1945, p. 54.

I. The truth about a condition or set of conditions.

II. Interpretation of the truth as it relates to human behavior.

A. Man requires frequent orientation to a complex problem during its solution.[5]

B. Training films must be organized into clearly defined, large groups of ideas, and within the large groups, smaller groups should be evident.[6]

C. The cumbersome language of the field manual, the stiffness of the classroom, the tiresome repetitions, all these were thrown out, and we substituted the imagination and ingenuity of presentation which make for good pictures.[7]

III. Visualization of the interpretation of the truth in a way that will permit individual identification with it.

A. Man learns steps in procedure best when he can arrange those steps in groups.[5]

B. Man is in a most favorable learning condition when confronted by a problem, the solution of which will contribute to his personal welfare.[8]

C. Complete photographic coverage requires that the script, including the scenes to be photographed, be planned sufficiently in advance.[9]

D. Anything less than a full exploitation of motion in training film work is a disservice to the instructional motion picture screen.[10]

5 Roberts, Harold B. "Some Training Films are Better than Others." *Business Screen*, Vol. 5, No. 5, 1945, p. 53.
6 Lewis, Richard B. "A Checklist for Improving Training Films." *Business Screen*, Vol. 5, No. 5, 1945, p. 100.
7 Cohen, Emanuel. "The Film is a Weapon." *Business Screen*, Vol. 7, No.1, 1946, p. 43.
8 Roberts, Harold B. *op. cit.*
9 Lewis, Richard B. *op. cit.*
10 Jensen, Herbert R. "The Training Film Art." *Business Screen*, Vol. 5, No. 5, 1945. p. 107.

E. Make it clear, make it logical, make it human, and drive home the necessity of learning now . . .[11]

IV. Verbalization of the interpretation of the truth in terms and in a manner that will permit the relatively effortless development of definite behavioral concepts.

A. The film maker . . . has to understand the values of audible forms, the spoken language and sound, when they are used with pictures. He has to synthesize carefully, adding just the right kinds and amounts of words and sounds to pictures to guarantee more meaning and more learning. Always, this job, too, must be done in terms of a given audience.[12]

B. We talked the way the American soldier talked, and he understood us.[13]

C. The function of the narration in a training film is to support, explain, and clarify the picture. The narration can explain the "why" of the action.[14]

D. Three conditions are important in the use of words in training films:

1. The vocabulary must be "geared" to the audience.
2. Words should be used only where absolutely necessary to an understanding of the picture.
3. Voices and voice quality used for narration and dialog must give the impression of understanding the subject-mater . . . "voices of experience" . . . sincere and straightforward.[15]

V. Emphases, both visual and audible, which emanate naturally out of the interpretation of the truth, and which will add to the immediate and retention value of the whole.

11 Horgan, Paul. "The Measure of Army Films." *Business Screen*, Vol. 7, No. 1, 1946. p. 39.
12 Goldner, Orville. *op. cit.*
13 Cohen, Emanuel. *op. cit.*
14 Lewis, Richard B. *op. cit.*
15 Goldner, Orville. *op. cit.*, p. 56.

A. Man appears to be motivated to action more often through his emotions than by his reason.[16]

B. Man is interested when he is learning, but interest does not guarantee learning.[16]

C. Interest and liking usually enhance attention.[17]

D. A dramatized training film with live sound can indulge in humor to help put across its point. Sound effects and music have necessarily played a secondary role so as not to distract from the primary importance of the teaching. But, of course, music contributes great emotion to a screen story.[18]

E. We dressed up our productions with animation and music.[19]

F. Pictures can be cut with change of pace, can be photographed with variety in visual symbols. Narration can be delivered with change of pace, change of pitch, change of voice quality. Monotony is unforgivable in any film.[20]

G. Photographically, it is advantageous to show a subject precisely "as it is," including its true color:

1. Color increases audience interest and participation; it is much closer to reality.
2. The illusion of depth is another very interesting and technically valuable attribute of color photography.
3. Color enhances the clarity with which a subject can be visualized.
4. Color may be used to emphasize important visual elements.[21]

16 Roberts, Harold B. *op. cit.*
17 Horgan, Paul. *op. cit.*
18 Dillinger, Alphons M. "Sound Effects and Screen Music." *Business Screen,* Vol. 7, No. 1, 1946. p. 86.
19 Cohen, Emanuel. *op. cit.*
20 Lewis, Richard B. p. 119.
21 Evans, Walter. "The Contribution of Color to Navy Training Films." *Business Screen,* Vol. 5, No. 5, 1945. p. 60.

VI. Summarizing Statement.[22]

The Training Film art is the skillful blending of the art of instruction with the art of the screen. Both of these are complex and the successful amalgamation of them into an effective, excellent training film is not an easy achievement.[23]

Guides to Selection

The concerns of adequate film selection, as have been indicated, are many and varied. It is no wonder that selection and evaluation are often carried on in a superfluous or haphazard manner. It is a big order; one that deterrs many a conscientious teacher from the way of visual instruction; one that challenges the best. Although the use of audio-visual instructional materials is as old as teaching itself, we become readily aware that motion picture use is still in knee-pants when we consider how few aids are available to teachers pursuing the sound selective processes required for adequate utilization.

Can the teacher today refer to any comprehensive, up-to-date guide or guides that have accomplished some of the spade-work up to the highest levels of film selection? In this year 1948, the answer is a regrettable "No." Several years ago, the American Council on Education took a laudable step forward in releasing its *Selected Educational Motion Pictures,*[24] probably the best evaluative, selective guide to date. But where are volumes two, three, four, and later? New films are coming on the market every day, and by what devious routes these reach appropriate instructional utilization is left to the reader's imagination.

Needed Selective Assistance

How do *you* know if a new film is good? You have to

22 This point added to Goldner's list of five.
23 Jensen, Herbert R. *op. cit.*
24 *Selected Educational Motion Pictures;* A Descriptive Encyclopedia. Washington: American Council on Education, 1942.

see it yourself, unless you are in one of those few fortunate situations where enlightened administration has taken constructive steps toward remedying, at least in a small way, a chaotic state of affairs in organized film selection programs. We are still looking to the American Council on Education for that next volume, and to the Division of Audio-Visual Instruction of the NEA, and to teacher and administrative organizations throughout the country for needed selection activities. These are tasks to which production specialists, curriculum experts, child psychologists, practicing teachers, supervisors, and administrators are all essential.

What sort of administrative arrangement might be set up for an organized, nation-wide selection and evaluation project?

1. First of all, a small number of groups concerned only with screening new product on the basis of production merit, a sort of National Educational Board of Review, to weed out the more obviously inappropriate productions.
2. A second group, composed of curriculum specialists, to categorize films on the basis of appropriateness to curricular approaches; and subject-matter specialists and supervisors, to select and categorize films for the various fields of study.
3. Practicing teachers, supervisors, and child psychologists, contributing a large number of groups throughout the country and knowing the needs of its great diversification, to select and categorize films on the basis of grade level appropriateness, socio-economic areas, and children's interests and needs.

Adequate administrative machinery would be required to integrate the activities of all groups and especially to see that the results of such selective projects reached the concerned teaching profession. Regular monthly, quarterly, and yearly

publications of data would be an obvious necessity. Perhaps even today, the collated results of all separate small selection projects going on in individual schools and systems would make a real contribution to the need for evaluative guides. One thing is certain, greater assistance in film selection is the crying need of educational film utilization throughout the country.

Completing the Cycle

And what of completing the selection cycle? Do the products of selection and evaluation cease with increased effective film utilization, important as it may be? Obviously, such accumulated data will form the basis of improved educational film purchase in schools and colleges throughout the country. Administrators and supervisors will know what they are buying and why.

Ideally, no film will be purchased for school use until it has been shown suitable on the proving-ground of the classroom, for we have noted that the value of preview is only to tentatively fix the posible worth of a film for instructional purposes. Administrative efficiency in the realm of audio-visual coordination calls for use of films in the classroom, via preview and rental arrangements with the original producers, prior to actual purchase. Certainly if films are purchased without determining their actual instructional utility, the least that can be done in selection is to assemble the talents of representative teachers and supervisors within the school or system (or on the national basis suggested) to carry out the lower level evaluative processes previously outlined. No one person can adequately appraise all of the selective aspects involved in adding to the school's or system's film library, and it is to proceed on a somewhat tenuous assumption of curricular omniscience to think that he can.

And then, there are the orginial producers. Shooting in the dark on educational film needs and needless repetitions should be ended. Greater spread in the availability of a wide

variety of appropriate instructional motion pictures is certain to result from the increased flow of teacher needs and appraisals returning to the producers. These worthy gentlemen we have too long chastised for wandering on strange roads, when the fault was often our own in not indicating our real needs. With improved selection and selection information, our wrongs and theirs should be righted.

Thus, as the cycle of selective processes passes from producer to distributor, from distributor to administrator, from administrator to teacher, from teacher to student, and the collated results of this eventual utilization return to the producer, many perplexing problems of production, administration, and utilization find promise of being more adequately dealt with in the instructional materials programs of tomorrow. Selection and evaluation have been our missing links. Let us fill in these important gaps and plan wisely for the future.

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