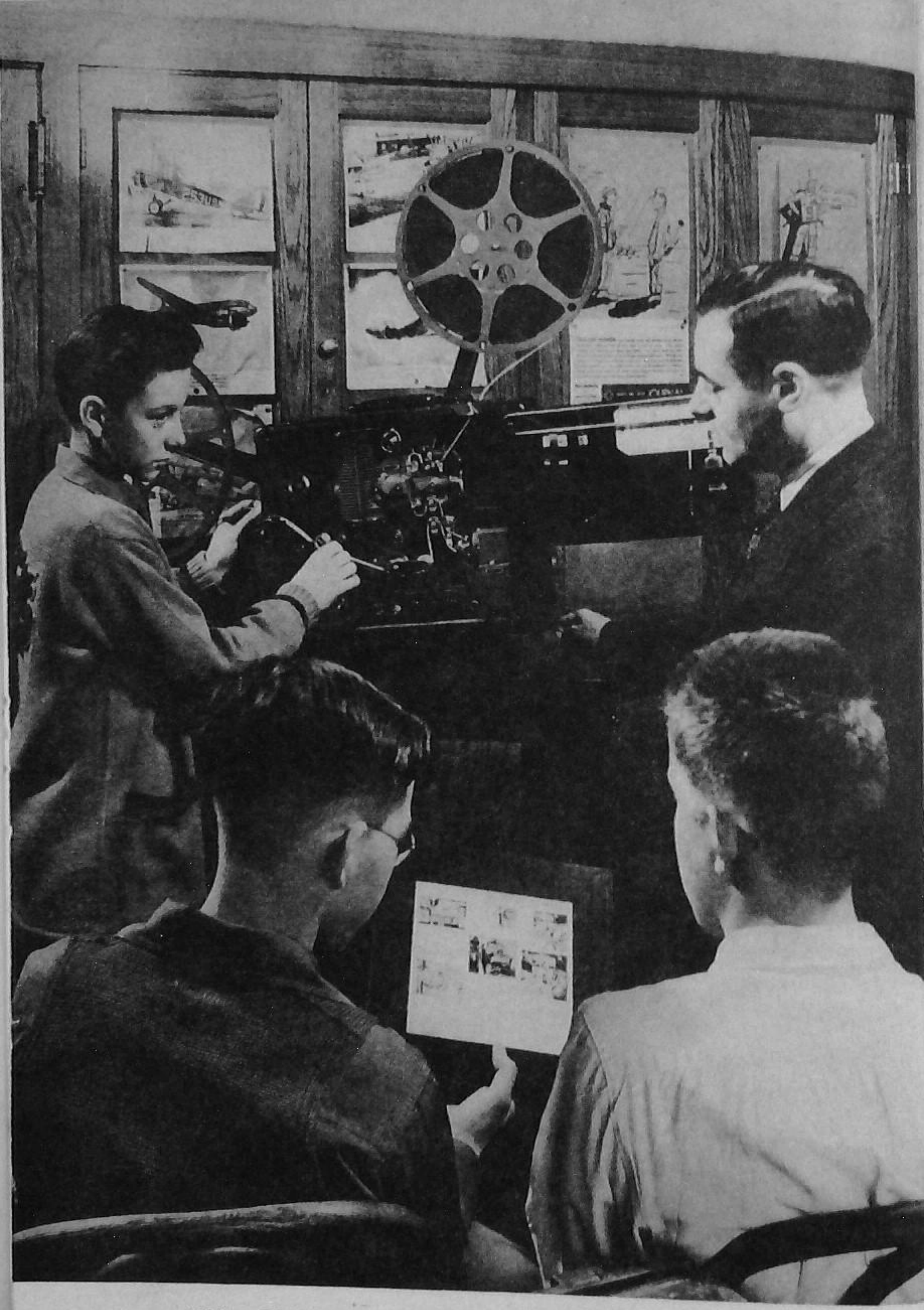
Office of the
Training Centre for Village Crafts,
Gandhigram.

258

LOOK, LISTEN AND LEARN



Older Children May be Trained as Expert Projectionists.
(Courtesy Bell and Howell Company)

LOOK, LISTEN and LEARN

a manual on the use of audio-visual materials in informal education

By L. Harry Strauss and J. R. Kidd

1948
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INTRODUCTION

THE NONCURRICULAR use of films and other audio-visual materials has received great impetus in recent years. This was due largely to their war-time utilization in the armed forces and among civilian groups as a means to furthering the war effort. The production of documentary, skill-training, and orientation films was conducted on a large scale by a variety of governmental and other agencies. The best producers were utilized and almost unlimited funds were placed at their disposal. In the armed services skillful leaders demonstrated the value of audio-visual methods in speeding up and producing effective results in comparison with traditional methods.

This experience had substantial carryover in the use of films in civilian education. The influence has been felt in community organizations of all types—in the use of 16-mm films, slidefilms, recordings, etc., for informal education purposes. A few of the more common uses include: skill-training in athletic sports; public affairs education, especially in connection with forums and discussion groups; health education; intercultural education; education in social attitudes and behavior; and for general information purposes.

Since the use of these means of communicating ideas, attitudes, and skills is relatively new to informal educators and group leaders, the results have not been uniformly good. There is great need for training in utilization through short courses, workshops and demonstration to familiarize the professional group worker and layman with good methods of use.

This book is designed to contribute to the better understanding of audio-visual equipment and materials, and methods of their use. The authors, whose experience has been both extensive and successful, are presenting herein many valuable helps and suggestions to those who wish to take advantage of these new tools for learning.

New York, 1948

J. R. BINGHAM, *Director,*
Association Films, and
President, Educational
Film Library Association

CONTENTS

Introduction v

I. Why Use Audio-Visual Materials? . . 1

How it happened. Use in informal education. The value of audio-visual methods. What are the audio-visual aids? Summary.

II. New Tools of Learning 18

Motion pictures. Slides and slidefilms. Opaque projection. Recordings and transcriptions. Public address and sound systems. Radio. Television. Facsimile broadcasting. Graphic communications. The field trip. Objects—models—mock-ups.

III. Equipment and Its Use 52

Selecting audio-visual equipment. Motion picture projectors. Slidefilm and 2 x 2-inch slide projectors. Sound slidefilm projectors. Opaque and 3¼ x 4-inch slide projectors. Recording and transcription playbacks. Projection screens. Adapting rooms for projection. Operating the projector. Trouble shooting.

IV. PRINCIPLES OF UTILIZATION 76

Prepare yourself. Presentation. Application. Follow-up.

V. ADMINISTRATION AND SUPERVISION OF THE AUDIO-VISUAL PROGRAM 86

Centralized use. The audio-visual committee. The audio-visual director. The communications center. The in-service training program. Demonstrations and workshops. Film councils.

VI. AUDIO-VISUAL AIDS IN RELIGIOUS PROGRAMS 99

Worship. Religious instruction. Missionary and world service education. Social problems education. Radio in religious programs.

VII. AUDIO-VISUAL AIDS IN THE SUMMER CAMP 111

Leadership training. Orientation of campers. Program activities. Camp promotion.

VIII. AUDIO-VISUAL AIDS IN HEALTH AND PHYSICAL EDUCATION 123

Good sportsmanship. Learning skills. Programming and utilization. Projected materials. Audio aids. Graphics and models. Production.

IX. AUDIO-VISUAL AIDS IN PUBLIC AFFAIRS EDUCATION 135

Motion pictures and slidefilms. Information

ED 107

programs. Discussion programs. Film forums. Entertainment films used for discussion. Community action. Slidefilms. Radio. Program integration.

X. FILMS FOR FUN 155

Children's film programs in local theaters. Theater parties. Other program suggestions.

XI. AUDIO-VISUAL AIDS IN PUBLIC RELATIONS 163

Motion pictures. Radio. Photographs. Graphic illustration. Exhibits. Exhibit materials. Demonstrations.

XII. SO YOU WANT TO PRODUCE A PICTURE! . 180

How to make motion pictures. Planning the film. Preparing the scenario. Selecting equipment. Shooting the picture. Processing the film. Editing the film. Adding sound. Making slidefilms. Making slides.

APPENDIXES 199

A. AUDIO-VISUAL COMMUNICATIONS: A SELECTED BIBLIOGRAPHY . . . 201

General references. Audio-visual periodicals. Motion pictures. Motion picture catalogues. Radio, television, and sound systems. Recordings and transcriptions. Production of audio-visual materials.

B. SOURCE LIST OF AUDIO-VISUAL MATERIAL 222

C. Source List of Equipment, Supplies, and Production 228

D. Some National Organizations Interested in Utilization of Audio-Visual Materials 231

E. Screen Projection Tables 233

16-mm films. 2 x 2-inch slides and double-frame slidefilm. Single-frame slidefilm. 3¼ x 4-inch slides having 2 x 3-inch mat opening.

Chapter 1

WHY USE AUDIO-VISUAL MATERIALS?

WE ARE passing through a revolution in the means of education. The three R's are being supplemented by the three L's—*Look, Listen,* and *Learn.* The use of audio-visual aids has become general in a single generation. This manual will consider how these new media of communication can be used for the purposes of such organizations as the church, the adult schools, the "Y"s, social agencies, public libraries, community councils, labor unions, clubs and societies, farm groups, and the many other organizations in the community that are interested in informal education.

How It Happened

Neither films nor other kinds of audio-visual communications have always been highly valued. The first motion picture was screened over fifty years ago, but as recently as 1940 a United States Senator, in helping to kill a federal motion picture agency, stated that a film never had been made in the United States which

was of any value to education. He spoke in this manner ten full years after the use of school films had become well established and after such films as *The City, The River,* and other documentary films of great value to informal education had been produced.

Why this attitude? And why such a slow development in the application of these modern tools of communication to education? No doubt the most important reason has been the identification the movies have always had with entertainment. Early figures in the motion picture industry, such as Edison and Lumière, were well aware that they were developing something of great educational significance. Statements made by them before the turn of the century showed a lively interest in the uses schools could make of their products. However, after the appearance of an early film called *The Great Train Robbery,* when for the first time the dramatic entertainment possibilities of films were exploited, movies became primarily entertainment, and the public wanted nothing else from them. This conception of the role of the film was underscored by a Supreme Court decision in 1915 which stated that the motion picture was "entertainment" and not an instrument of education or communication like the press. During the pre-World War I years, and for a decade afterward, most school teachers, church leaders, and social agency heads were unable to see any value in movies for their work. Indeed, many of them saw only

ED100

the commercialism of the screen industry and the bad taste of many of the films. Here and there a few notable exceptions were found. Some schools and colleges were using films in the classroom. Even prior to World War I, the Y.M.C.A. had a film bureau attached to its Industrial Department. Motion pictures were used for training and for morale building among American, Canadian, and British troops in World War I. A university extension department in Alberta had started to use films in educational programs in rural communities as early as 1910. But these were rare exceptions.

Schools and Classroom Films

Teachers in the public schools became alive to the new possibilities first. Slides, posters, models, layouts, were all an old story to the imaginative teacher. Now he began to experiment with film and filmstrip. As better 16-mm projectors became available, and more film was provided in this size, the use increased. By 1932, and in the years immediately following, experimental work had gone so far that it was possible to set out good standards for the utilization of motion pictures in the classroom.[1] Thousands of teachers now began to train themselves to use the new equipment to enrich the learning experiences of their pupils.

A new style of motion picture was evolved, the so-called classroom film produced by "Erpi," now Ency-

[1] Max Brunstetter, *How to Use the Educational Sound Film*, University of Chicago Press, 1937.

clopaedia Britannica, in which the film content was integrated directly with the subject matter of the school curriculum.

Just about the same time, under the leadership of John Grierson in England and later by men like Pare Lorentz in the United States, the documentary film movement began to grow. This new type of film, which captured the dramatic qualities of entertainment films and applied them to factual studies of man and his social problems, had an even greater impact on film use in informal education than upon school use. It was about this time that the idea of "talking back to the film"—of using the film in a discussion program, and for many other education tasks—began to be tried.

While these developments in film were proceeding there was an even more important growth in experimentation with new equipment. The slidefilm came into fairly general use. Radios were improved; portable models were introduced, and FM, television, and facsimile were pushed beyond the dream and the blueprint stages. There was also a new interest in a comparatively old idea—recording on wire.

Then came the war, and with it a notable development in the whole field.

Influence of the Armed Services Training Program

In 1941, the United States was faced with the enormous task of turning out a Navy and an Army of mil-

lions of men in a relatively short period of time. Experimentation had shown that facts and skills could be learned with the help of audio-visual materials in a shorter period than by older methods. Motion pictures, slides, slidefilms, models, mock-ups, and many related aids came into use on a hitherto unprecedented scale. With unlimited funds, materials, equipment, and manpower at their disposal, training officers were able to select and use the instructional materials then available from commercial and educational services, to develop new training methods utilizing these materials, and to produce thousands of units of new materials. Audio-visual communications were utilized extensively in strategic and tactical planning, technical study, incentive programs for both army personnel and civilians, and for historical recording. Here was a large scale demonstration for the first time of the value of these media.

Naturally, this development is having its effect on both the school and organizations interested in informal education. Millions of men trained the G.I. way have returned to civilian life. Many of these men understand and appreciate the value of the motion picture and related means, and are encouraging educational organizations to use them in educational programs. An article by Walter Adams, entitled "Can Our Schools Teach the G.I. Way?" (*Better Homes and Gardens*, Feb. 1944, reprinted in the *Reader's Digest*) stimu-

lated much interest and comment. Moreover, there are now living in our communities men who have had service training in these new methods and techniques and who are applying this knowledge to their civilian jobs. By doing so they are setting a pattern in their communities.

New production organizations manned by veterans trained in the armed services program are springing up in various sections of the country. Most of the films produced by these organizations are now going to industrial and formal education consumers, but as soon as leaders in informal education learn better how to make known what they need, material for study groups and similar purposes will be forthcoming. Increased production of appropriate material will, of course, stimulate the wider use of these materials.

Influence of the Government's Film Program

Several government departments and agencies have produced and distributed hundreds of motion pictures during the war period. These films have been used to stimulate industrial production, increase the sale of war bonds, develop better international understanding, increase food production, and develop racial tolerance. By this means, both in this country and elsewhere, literally millions of persons experienced for the first time the power of the motion picture.

Local film libraries mushroomed in all sections of

the United States as a direct result of the federal government's distribution program. During the war period local photographic dealers and public institutions, such as public libraries and school systems, were able to build up sizable film collections using free governmental and industrial sponsored films as a base. Many public libraries, recognizing that the film parallels the book as a communication medium, have expanded their film collections to include documentary and informational films. Thus, there has been a widespread development of film libraries, and the availability of films in the local community is a factor which will encourage the use of audio-visual communications in informal education agencies.

Influence of Available Equipment

The scarcity of audio-visual equipment was one factor in deterring the use of communication materials by many organizations. During the war the entire output of equipment manufacturers was taken by the armed services, industry, and a few high-priority institutions, such as hospitals. The demand for equipment by the armed forces was so great that manufacturers were enabled to expand their production facilities, and new industries were encouraged to enter the field. Already films and projectors, slidefilms, portable radios and playbacks, and new types of equipment such as wire recorders are coming out in an increasing volume al-

though demand still exceeds supply. Obsolescent equipment must be replaced, and the needs of several thousand potential users must be satisfied. It is to be hoped that mass production and the growing competition between manufacturers will soon result in lower equipment costs, for the availability of cheaper equipment would soon greatly increase the use of audio-visual materials.

Influence of National Agencies

National agencies such as the American Library Association, the Boy Scouts of America, the Congress of Industrial Organizations, the International Council of Religious Education, the National Council of Y.M.C.A.'s, to name a few, are rapidly becoming aware of the contribution audio-visual communications can make to their own programs and to those of their constituent member organizations. Publications, such as the special motion picture issue of *Channels*,[2] are indications of this awareness. A majority of our national agencies have already established audio-visual departments or standing committees concerned with the integration of communication materials into programs. This recognition, as it filters down into program planning in the community, will bring about a wider and more effective use of motion pictures, slidefilms, transcriptions, and graphic materials.

[2] April-May 1945, National Publicity Council, 130 E. 22nd Street, New York 10, N. Y.

Use in Informal Education

The extensive employment of audio-visual materials by the armed services and the public schools has been noted. Leaders in informal education have not as yet succeeded in matching this. However, there is some evidence to indicate that audio-visual aids have an even greater importance in informal education than in either the army or the public school. Contrasted with these two great formal institutions, the program of informal education places much less emphasis upon the mastering of subject matter and content as such and puts much greater stress upon the inter-personal relations of people, the development of habits and attitudes, and the stimulation of an inquiring mind. Audio-visual material has been used to teach subject matter with considerable success. You can even teach mathematics that way. But the essential genius of the film, the purpose it serves best and which it alone can do, is to deal effectively with the problems of people and their relationships. The very best films are those that deal with human problems and achievements. Of course this kind of material, the very essence of a good film, is also basic curriculum material for informal education.

Leaders in the school field are beginning to recognize this fact. Charles Hoban, from his long experience with school films and later with the Army Pictorial Service, has commented upon educational film:

Long before the war, schools and colleges used films as aids in academic instruction, but progress was slow in making or using motion pictures in organized education so as to provide broad social orientation, to disseminate important information on social, scientific and cultural developments, or to influence the moral conduct of both individuals and groups. Even in the purely academic field, educational films remained bookish, and educational thinking confined them to a bookish mould. Now, as never before, educators and the public alike seem to be convinced that education must shed its bookish quality and that it must deal vigorously and effectively with social issues and moral conduct.[3]

If this is true of the formal school it is even more the case for informal education.

Moreover, in informal education there is the freedom and flexibility needed to experiment with and develop the new imaginative approaches to the use of this material which is demanded by its nature and its possibilities. This manual will talk a good deal about good practices in utilization. Actually, while certain standards have been set and these will be outlined, the field is still new and there is a great need for further experimentation. Utilization must always be linked to the educational purpose which the organization has set out.

Despite the comparative newness of the work, audio-visual materials already have been used effectively for a number of purposes in informal education:

Programs of general information, such as "What is Ireland like?"

Programs of discussion: the film forums.

[3] Charles F. Hoban, Jr., *Movies That Teach*, Dryden Press, New York, 1946.

Programs of stimulation to community action, such as action on housing.

Skill training: teaching of a sport like basketball, or the techniques of interviewing.

Fact learning, e.g. the history of child welfare services.

Public relations and interpretation.

Research, such as the motion picture record of the behavior of boy groups under different conditions and kinds of leadership.

Leadership training, for providing case study material in particular.

Group therapy: films have been used as a basis for group therapy exploration and discussion.

Entertainment and cultural exhibitions, such as the fine art films.

Religious education and worship.

The Value of Audio-Visual Methods

Enthusiastic individuals promoting the use of audio-visual methods often talk about their effectiveness by repeating such well-worn phrases as: "One picture is worth a thousand words," "Eighty-five per cent of learning is through the sense of sight," or "Through the use of visual aids students learn up to 35 per cent more in a given period of time, and remember up to 55 per cent longer." Of these statements only the last has any basis at all in research, and study has been too scanty thus far for any extensive generalization. What, then, is the peculiar contribution that these aids make to education? Answers to this question have been given at length in a good many books [4] and the arguments will not be repeated here since the emphasis

[4] *See* Appendix A.

in this manual is on use rather than theory. It will be necessary, however, to consider briefly a few aspects of this question.

Motivation. People like the movies! Young and old come to them with interest and enthusiasm. It is true that they usually come expecting to be entertained, and they often bring to a film forum the self-same passive attitudes and behavior patterns which are habitual in the entertainment theater, thus creating certain problems. But they come! In a study made of the participants in four different film forums in Canada, 86 per cent stated that they would not have come out to discuss public issues had not a film been part of the program.

Effect on Emotions and Attitudes. For some time, leaders in adult education have been saying that many of their educational programs fail because they are too academic and too intellectualized. It has been frequently noted that so much attention has been given to the rational processes that a man's emotional development, the maturing of his attitudes, has often been ignored. Whatever else they may do or may leave undone, films, and the other methods, do influence emotions and attitudes. For good or for ill! The Nazis used film with telling effect; so did the democracies. We do not know too much as yet about the effect of film upon attitudes and upon emotional development, although study in this field is going on slowly but systematically. It is quite evident, however, that we have a media for

education, of extraordinary power, to be used with great care, supplemented by experimentation and research.

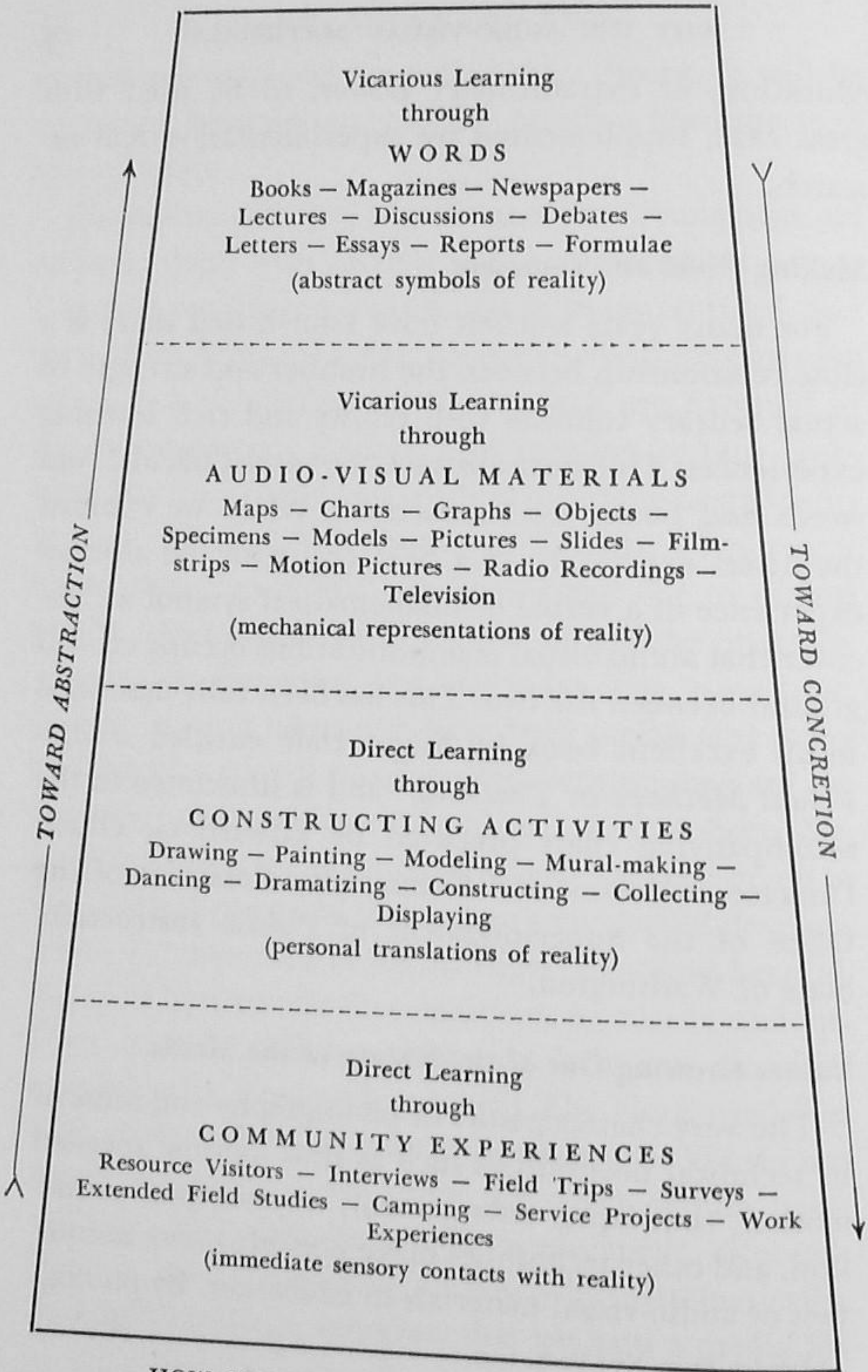
Making Vivid and Concrete

For many years teachers have known that there is a close relationship between the number and strength of actual sensory contacts with reality and rich learning experiences. The more abstract, the more difficult! And words and books are abstractions. When we contrast the direct experience of a field trip with the abstract experience of a verbal or mathematical symbol we discover that audio-visual communications occupy central ground between the two. This has been fully described in an excellent book by Edgar Dale entitled *Audio-Visual Methods in Teaching*[5] and is illustrated in the accompanying chart prepared by Edward G. Olsen, Director of School and Community Relations of the Office of the Superintendent of Public Instruction, State of Washington.

Values Growing Out of the Nature of the Media

The very characteristics of photography and some of its technical possibilities such as slow motion, speeded motion, time-lapse, enlargement, microscopic, animation, and other techniques make possible many unique uses of audio-visual materials in education. By photog-

[5] Dryden Press, New York, 1947.



HOW GOOD SCHOOLS PROMOTE LEARNING

raphy time and space are eliminated, but not reality. Films can bring the outside world to the clubroom. Complex parts, of a machine or of a social organization, can be shown in relation to each other and to the whole. A broad field may be surveyed in a short space of time. Attention can be focussed on the essentials—thus a proper emphasis can be maintained. Besides, the materials are of a portable nature. A farm study group, an isolated church, or a city labor union adult class can all be linked by radio or make use of the same film material.

What Are the Audio-Visual Aids?

Probably the correct term is "audio-visual communications" but the one in most common use is *audio-visual aids*. Either term is used to cover what is usually meant by such phrases as *visual education*, and *audio-visual instruction*. The latter are somewhat misleading as there is an implication in them that, for example, motion pictures comprise a subject field. Too often the accent has been put on the aspect of the machine, or tool, or gadget, rather than upon the communication which is transmitted. For purposes of good administration it has been found necessary to handle audio-visual materials through a single office, but there is no more reason for a department of audio-visual communications, screened off from the rest of the organization, than there would be, say, for a "blackboard depart-

ment." Audio-visual aids must be used as they relate to the program—they are a means of achieving the program goals.

While the motion picture is certainly the most important of these media, the term *audio-visual aids* encompasses much more than the film. In this manual the term will stand for a number of aids to communication which can be used in programs by churches, schools, social agencies, and other community organizations. All of the following are usually included under the one term:

Blackboards and bulletin boards.
Charts, graphs, and diagrams.
Drama and pageantry.
Exhibits.
Field trips on educational tours.
Illustrations and photographs.
Maps.
Models, objects, mock-ups, and specimens.
Motion pictures.
Posters and cartoons.
Radio, television, and facsimile broadcasting.
Recordings and transcriptions.
Slidefilm.
Slides.

Summary

Recent technological developments have opened many new possibilities for education. Through the use of audio-visual methods the army and the public schools have greatly increased the effectiveness of their work. Leaders in informal education have begun to make use

of these same aids to communication to achieve their own specific purposes. The employment of audio-visual media does not mean setting up a new and different program or curriculum; rather these media should be applied with imagination to the program objectives towards which the organization is already working.

In the following chapter the moving picture, radio, slidefilms, and other media will be considered in some detail since an understanding of the nature of these media must be achieved before their utilization can be discussed. In subsequent chapters the problems and possibilities in their use will be discussed in relation to specific program areas. Finally, a comprehensive bibliography and resource list will provide the reader with a means of following up any particular interest he may have.

Chapter 2

NEW TOOLS OF LEARNING

THE PAGES which follow will consider the characteristics of the motion picture and other audio-visual aids to learning. The main sources where the materials can be secured are mentioned and program applications are suggested. Principles of utilization which apply to all of these communications are discussed in Chapter 4.

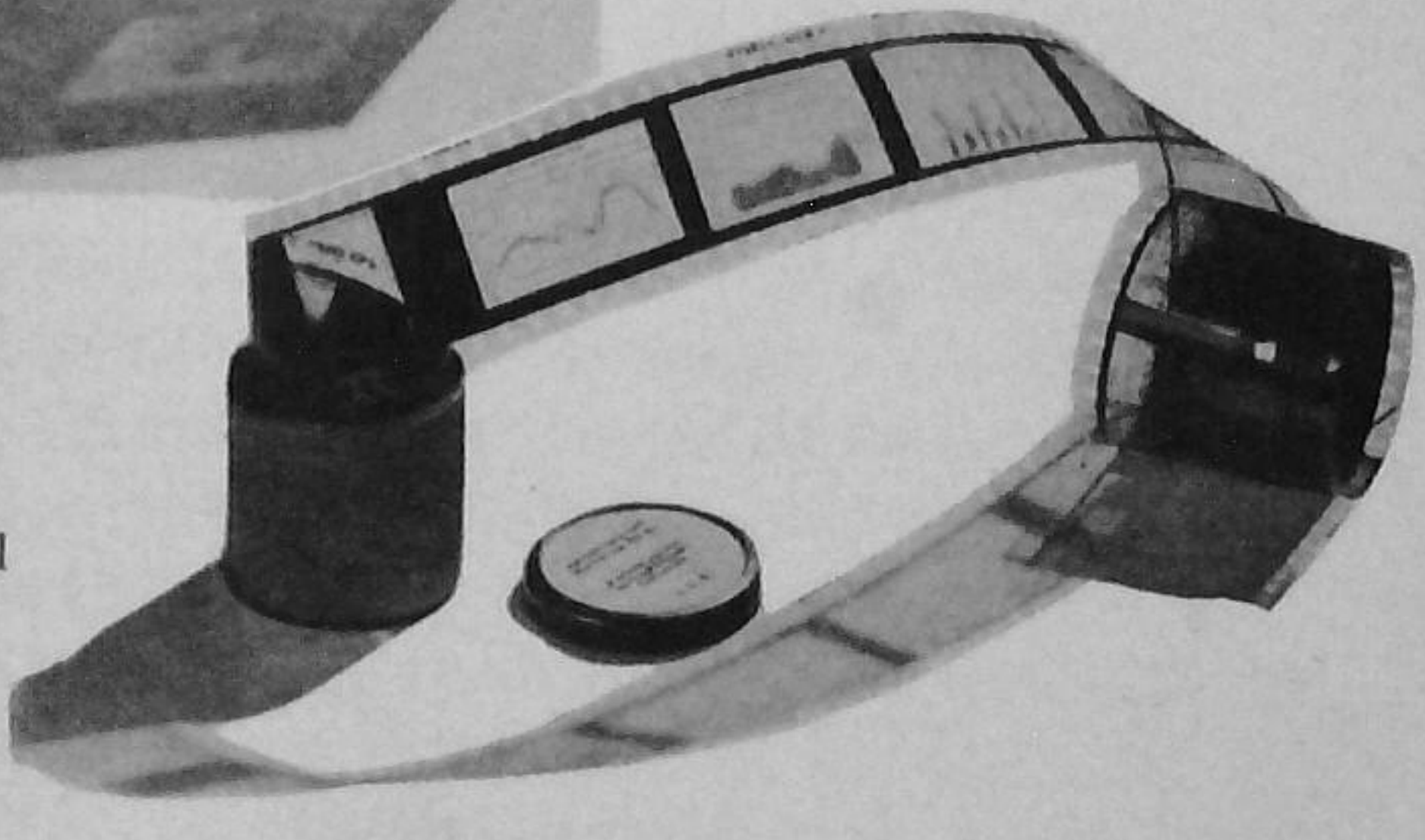
Motion Pictures

The importance of the sound film in informal education has already been considered at some length. There are educators who feel that its potential influence upon world culture will be as great as that of printing. Whatever its value or place in cultural history, it is important to have some understanding of the technical process by which celluloid becomes moving images on the screen which are of compelling power on man's mind and imagination.

Size

Motion pictures have been standardized in three sizes. The 35-millimeter film is the primary medium

2″ x 2″ Kodachrome Slides.



Double-Frame Slidefilm. (Photo courtesy Society for Visual Education, Inc.)

Television Set in Operation. (Photo courtesy RCA Victor)

of the theatrical industry; the 16-millimeter film is used by most nontheatrical organizations; and the 8-millimeter film is used extensively by the home-movie enthusiast. This manual is concerned with the 16-mm film, and, unless exceptions are noted, any further reference to motion pictures will imply that size film.

How Motion Pictures Move and Talk

When viewing motion pictures on the screen we see what appears to be continuous movement. This illusion of continuity is produced by a characteristic of the human eye known as persistence of vision. As a series of pictures rapidly follow each other on the screen the eye holds the image of one picture until the next appears. Each frame depicts slightly advanced movement, thus the eye interprets a series of projected still pictures as a smooth and continuous movement.

Silent films are projected at 16 frames per second. This is the slowest speed possible which will avoid noticeable screen flicker. Sound motion pictures, on the other hand, have been standardized at 24 frames per second due to the fact that the sound recording systems now used to produce high-fidelity sound operate most efficiently at that speed.

Sound motion pictures carry a narrow sound band or track on one side of the film in the same position occupied by the second row of sprocket holes in a silent film. Sound is imprinted on this band in the form of a

continuous, narrow, transparent line of variable width and density. As the sound track runs through the sound head of the projector, light from the exciter lamp passes through this transparent area in direct proportion to the width and density of the line. The transmitted light plays upon a photo-electric cell which in turn changes light values into electrical impulses. The amplifier then magnifies these impulses and carries them to the speaker where they are converted into sound having the same characteristics as those originally recorded on the film.

Film Classifications

Motion pictures applicable to informal education may be roughly classified as being either educational or entertainment films. Any classification is, of course, arbitrary, and in final analysis is dependent upon the way films are used. Films like books may be used for many purposes, and when projected, entertainment films may be educational and educational films may be entertaining. The newsreel, for example, is an accepted unit of an entertainment program in a commercial theater, yet when it is tied into a public affairs program in a community agency, it may for all practical purposes be classified as an educational film.

Photoplay or fictional films, for the purposes of this manual, are classified as entertainment motion pictures. These films, for the most part, are 16-mm prints of original 35-mm theatrical releases, and are available for

nontheatrical use from one to three years after their first commercial run.

Educational motion pictures may be subdivided into instructional, newsreel, documentary, and industrial films.

Instructional Films

Instructional films comprise a large portion of the available educational motion pictures. These films are designed for specific teaching purposes in schools, industry, and community agencies. *Processes* are explained, *information* is presented, and *skills* are demonstrated. The Encyclopaedia Britannica film, *Reproduction Among Mammals,* which shows the processes of fertilization, membrane development, and embryonic circulation, is an example of one type. *Finding Your Life Work,* produced by Vocational Guidance Films, Inc., is an informational film designed to impart pertinent information relative to the selection of an occupation. A third type of instructional motion picture demonstrates skills essential to mastering certain curricular or program activities such as *Play Volley Ball,* produced by Association Films.

Among the better known producers of instructional films are Association Films, Coronet, Encyclopaedia Britannica, Simmel-Meservey, U. S. Office of Education, and Young America. All of these organizations produce films that have certain characteristics in com-

mon. The treatment and interpretation of instructional films can generally be traced to a single person or group of persons who are recognized as authorities in their respective fields of interest. For this reason these films are scientifically accurate in content, and the treatment is generally educationally sound.

Although most of the available instructional films were prepared for formal educational purposes, many of them may be utilized effectively in industrial training and informal education programs. When these films are used with adult groups, care should be taken in their selection. The films chosen should be pitched at an intellectual level which does not give the appearance of talking down to the audience. Films such as *Body Defenses Against Disease, Foods and Nutrition,* and *The Nervous System,* were designed for classroom use, yet they have been used to advantage in many agency health education programs.

Newsreel Films

The newsreel is a timely pictorial presentation of actual events taking place both here and abroad. It is generally a 16-mm version of theatrical newsreels, and is useful in current events programs. The *March of Time* newsreel is a film treatment comparable to that of a feature news story appearing in a newspaper. The *March of Time* "Forum Edition," and the R.K.O. *This is America* series include many films which can be

used in information or discussion programs. *Children of Mars, Rockefeller Center,* and *Americans All,* are suggestive of films of this type.

Timeliness is a factor that must be considered in using newsreels for programming. Unfortunately many of these films are dated before being released in 16-mm versions.

Documentary Films

The documentary film is a relative newcomer to the educational film field. Documentary treatment lies somewhere between that of the photoplay and the instructional film. The dramatic style of the entertainment film is employed to convey authentic information to its audience about real social problems.

Some of the better documentaries have been produced by governments for the purpose of either informing their citizens concerning the work of governmental agencies, or influencing public opinion toward governmental functions. *The Plow That Broke the Plains* and *The River,* were produced by the U. S. government for the purpose of directing public opinion to problems of land and water control. *Now the Peace,* produced by the National Film Board of Canada, is a film which was designed to create an understanding of the United Nations.

Good documentary films have been and are being produced by nongovernmental organizations. An out-

standing example of this is *The City,* produced with foundation backing and concerned with the need for better city planning.

Industrial Films

The industrial or sponsored film appeared early in the development of nontheatrical motion pictures in the United States. It stimulated interest in the use of audio-visual materials in schools, churches, and other community agencies, and contributed to the development of the instructional film by providing a ready-made and waiting market. Because most of these films deal with practical matters, they are being used to advantage in schools, industry, and informal education agencies. The old type industrial film which merely pictures how a product is made is being replaced by one which shows the proper use of a product and its contribution to modern living.

Some educational leaders are disinclined to use sponsored films because of the advertising involved. By such an attitude many good films will be overlooked. Much valuable information is presented in industrial films, which is not available in other motion pictures. A logical approach to the use of the industrial film would be to apply the same criteria used in the selection of other educational films. These criteria might include the following: Does the material presented fit into the objectives of the program? Is the presentation accurate

and authentic? Does the film cut across a general field or does it promote a specific brand or product? *Passport to Health, Wings to Alaska,* and *The World We Want to Live In,* are examples of the better sponsored films.

Film Sources

"Where do I start?" is a question frequently asked by the program worker. As a first step it is suggested that he study the source material available in his public library. Most reference librarians have assembled a workable collection of film catalogs, and they are in a position to assist in the selection of appropriate films from diverse sources. Certain metropolitan libraries, such as those of Cleveland, Akron, and Dallas, have established film libraries with community needs in mind, and if the program worker is lucky enough to be located in one of these communities he should avail himself of their services.

When an agency contemplates an extensive film program, the program worker might start by assembling a workable collection of film source materials. An indication of the scope of distribution organizations may be secured by examining the publication, *Sources of Visual Aids for Instructional Use in Schools.*[1] Some 462 film sources are indicated, and this figure is far from being inclusive. Inasmuch as there is a great deal of duplication in the holdings of film libraries, it is pos-

[1] U. S. Office of Education, Washington, D. C., 1941.

sible to secure needed films from a minimum number of sources. The key to location lies in a few finding guides. These include among others: *The Educational Film Guide; 1000 and One: The Blue Book of Non-theatrical Films; The Directory of 16-mm Sources;* and *The Educator's Guide to Free Films.*[2]

When these finding lists have been secured, the program worker should examine them carefully to discover the availability of films from local and regional libraries. He will discover that most of the films he will need may be secured from a few libraries. His next step then is to request catalogs from these organizations. Available film sources include commercial film libraries, state government film libraries, university film libraries, public libraries, school libraries, museum libraries, and film libraries of national and regional associations. Information on new film releases not included in available catalogs can be secured by scanning the pages of *Business Screen, Educational Screen, See and Hear, Film Forum Review,* and other audio-visual periodicals.

Slides and Slidefilms

The slide and slidefilm are considered together because they have certain characteristics in common. They are both *still* projections; subject material is often

[2] The annotated bibliography located in Appendix A of this manual provides complete publication data on these and other film directories.

available in either medium; and the production procedures are similar.

Slides

The slide is one of the oldest forms of visual projection. The "magic lantern," which was invented in the early part of the seventeenth century, was used as a toy until about 1850 when it began to be adapted to educational programs.

Slides have been standardized in the United States in two sizes: the 3¼ x 4-inch slide and the 2 x 2-inch slide. The 3¼ x 4-inch slide is usually a black and white positive photograph developed on a glass base, covered with a thin glass plate, and bound with tape at the edges. Colored slides are produced either by inserting sheets of color film between two glass covers or by tinting or toning the black and white glass slide. Although the use of 3¼ x 4-inch photographic slide seems to be decreasing, the production of hand-made slides of this size is being accelerated. Schools, churches, and other agencies are discovering that the hand-made slide is an excellent medium for encouraging individual or group expression. Production methods are described in a later chapter.

The 2 x 2-inch slide is a by-product of the motion picture industry. The 35-mm camera was produced to take advantage of inexpensive motion picture film, and after it had been used for some time to produce the

traditional positive paper print, some one discovered that the film itself might be used for still projection. Thus, through a series of steps, the standard 2 x 2-inch slide evolved. This slide is usually a mounted double frame illustration which has been clipped from a section of 35-mm safety film.[3] The 2 x 2-inch slide is especially useful in program work because it can be produced inexpensively in color; it is compact and light in weight; and it utilizes lightweight projection equipment.

Slidefilms

The slidefilm (also commonly called filmstrip, filmslide, picturol, stripfilm), is nothing more than a logically arranged series of still pictures on a strip of 35-mm safety film. In the armed services slidefilms ranked a close second to films in production units completed. The U. S. Office of Education in connection with its recent training program produced slidefilms to supplement the content of most of its motion pictures. Today industry is using this medium extensively in many of its training programs, and slidefilms on social problems are beginning to appear.

Slidefilms are available in both sound and silent versions, and the images on the films may be either single or double frame. The single-frame image is one-half

[3] Film exposure area of a 35-mm camera being approximately 1 × 1½ inches in size.

the size of a double-frame image and the base of the image runs perpendicular to the edge of the film; while the base of the double-frame image runs parallel with the edge of the film. The single-frame slidefilm is favored in commercial production due to the fact that more pictures can be accommodated on a shorter strip of film than would be the case if double-frame films were produced.

Silent Slidefilms

The silent slidefilm, generally a series of pictures with or without captions, is accompanied by a manual or reading script which provides the narration necessary to give the film meaning. When used in program situations the script may be adapted by the leader to meet local needs. *Foreign Trade: It's Good Business,* produced by the Public Affairs Committee, Inc., is typical of this type of silent slidefilm. Other slidefilms superimpose the captions or narration upon the illustrations, or sandwich them between the pictures. *USSR, The Land and the People,* produced by the Public Affairs Film Co., is a film which carries the captions on the picture frames.

Sound Slidefilms

The sound slidefilm is comprised of a silent slidefilm and a transcription record which carries the commentary and related sound effects. In operation the

slidefilm projector is set on the first film frame and the playback is started. When the operator hears a tone signal he manually advances the film to the next frame. This process continues until the total unit has been projected. You can adapt the presentation by dispensing with the transcription during a second showing, and by interpolating comments which may relate the projected material more closely to the interest of your group. This narration and music add something to the dramatic quality and there is also some guarantee of uniform presentation.

Slide and Slidefilm Sources

General finding lists for slides and slidefilm are nonexistent. Slides are available from commercial producers, national and state agencies, libraries, museums, photographic stores, and denominational bookstores. Slidefilms are most frequently secured directly from commercial producers. Sources for procuring both of these media are listed in Appendix B of this manual.

Using Slides and Slidefilm

Slides are frequently used in pictures featuring worship, inspiration programs, art appreciation, song leading, group discussion, and to provide a means for both individual or group expression. Their values are at least three in number. First, they provide a large still

image which may be studied and discussed for extended periods of time. Second, slides may be projected individually or in any pre-arranged series; thus the leader can adapt a basic slide collection to varying program needs. Third, because they are inexpensive, agencies are enabled to build up sizable slide libraries. Colored 2 x 2-inch slides cost about 50¢ each from commercial sources and they may be made for as little as 20¢ each. The hand-made 3¼ x 4-inch slide costs but a few cents to produce.

The slidefilm may be used to advantage whenever an operation or learning situation can be divided into a series of logical steps. As an aid in skills teaching it ranks a close second to the motion picture. It doesn't replace a motion picture; it does a different kind of job. Use a slidefilm when you want to stop, discuss, answer questions, make sure that every point registers—when the detail is extensive. This is particularly true of the silent slidefilm which enables the leader to conduct extended discussion related to any illustration on the strip. Subject coverage, availability, and costs are determining factors in the selection. The silent slidefilm is more widely used. Its subject coverage is more inclusive, its sources of distribution are many, and it is a less expensive medium to use. Silent slidefilms with reading scripts retail at approximately $2.50 each, while the sound slidefilm costs $10.00 or more per unit.

Opaque Projection

The opaque projector, or reflectoscope, projects an enlarged screen image from original flat illustrations obtained from books, pamphlets, periodicals, posters, maps, and photographs. It will also project images of small three-dimensional objects such as coins, pieces of jewelry, and machine parts. The image of the original material, which may be up to 6 x 6 inches in size, is produced by a process of light reflection involving mirrors and a set of projection lenses.

The sources of program material for use in this projector are many and varied. In addition to the flat materials already mentioned, typewritten sheets, drawings, diagrams, music copy, cartoons, and single copy may be projected. If you have but one copy of your illustrative material, or if it is in a book you are still able to use it to illustrate the lecture or discussion.

An outstanding merit of this aid is its ability to reproduce color images. A colored illustration reproduced by any other means would prove expensive, cause considerable delay, and probably would not reproduce color values as accurately as does the opaque projector.

The opaque projector is usually combined in a single piece of equipment with a 3¼ x 4-inch slide projector. This combination unit allows the program worker to use opaque materials and large slides interchangeably in a single presentation.

Effective utilization of this machine is attained only with small groups. This is due to the fact that a considerable portion of the reflected light is dispersed before it reaches the screen, resulting in a weak image. A small image, appropriate for use with small groups, concentrates the available light and makes the picture more vivid. This disadvantage can be partially compensated for by preparing the projection room for near total darkness. Because of the light dispersion factor, the opaque projector uses a short focal length lens. This has an advantage in that the leader is located at the front of the room and can handle both projection and presentation. Many useful hints relative to the effective use of the opaque projector may be obtained from J. Y. Taylor's manual, *Opaque Projection, a New Frontier in Teaching.*[4]

Recordings and Transcriptions

The phonograph has been used for several years in music appreciation programs, but its use for other educational purposes is of recent origin. This broadened application may be traced directly to the radio industry. The transcription was invented for the purpose of delayed radio broadcast, and also to maintain a library for reference purposes of programs broadcast over local stations. Certain obsolescent discs found their way into

[4] Scientific Instrument Division, American Optical Company, Buffalo, N. Y., 1941.

classrooms where educators quickly recognized the potential value of this newer auditory medium. Increased use has stimulated production to a point where a large number of recordings and transcriptions are now available for program use.

The recording, commonly called a *record,* is usually 10 or 12 inches in diameter, and plays at 78 rpm (revolutions per minute), for a maximum of 4½ minutes on each side. The transcription, on the other hand, plays at 33 1/3 rpm, ranges in size up to 16 inches in diameter, and plays for a maximum period of 15 minutes on each side. The record can be played on the home model phonograph, while the transcription uses a special playback unit, the turntable of which revolves at 33 1/3 rpm. Equipment is now available which will handle both types of discs.

The Instantaneous Disc Recorder

Disc recording units which will transcribe sound presentations are now available but they are limited in use and high in cost. A good dual-speed recorder will cost anywhere from $500 up. Recording units which cut discs at 78 rpm may be procured for less than $100, but these machines produce an inferior product. Whenever a limited amount of sound recording is essential to program work, the program worker might approach the management of a local radio station for assistance. Broadcasting stations have equipment and technical

personnel trained in the recording process, and their facilities are often available to educational organizations. In larger cities commercial sound recording facilities are available, and audio-visual departments of public school systems often own recording equipment.

The Wire Recorder

Several newer methods of recording may in time displace the disc recording and transcription. These include the cellulose tape recorder, the magnetic tape, the film sound recorder, and the wire recorder.

The wire recorder utilizes a fine high-grade steel wire about the size of a human hair in the recording process. The wire, which is of sufficient length to record a continuous program of more than an hour's duration, is magnetized as it passes through the sound recording head of the machine. Needle scratch and other foreign sounds are eliminated, and the tonal range is much broader than is the case in the disc recording process. The magnetized wire may be played thousands of times without any loss of sound fidelity, or it may be demagnetized during the playback and used to record other material.

Radio stations are already experimenting with the use of the wire recorder for delayed broadcast purposes; telephone companies are using it to train operators in proper voice technique; educators are adapting it to recording the proceedings of institutes and conferences

and for training interviewers, discussion leaders and public speakers. When combination radio and wire recording sets become available, it will be possible to record any radio program for future playback by the simple expedient of throwing a switch. Automatic recording of a radio program will be feasible by connecting the radio set with a time clock which will turn the set on, record a desired program, and then turn it off.

Recording and Transcription Sources

Public libraries are beginning to assemble collections of recordings and transcriptions for community use. The program worker, therefore, should investigate the holdings of libraries as a first step in locating these materials. Where collections are nonexistent or where the agency desires to establish its own functional collection, it is suggested that the program worker might utilize the following location tools to advantage: *Educational Recordings for Classroom Use, Radio Transcriptions for Victory,* and *Recordings for School Use.*[5]

Using Recordings and Transcriptions

Although these media have not been widely used in program work, their applications are many. The recording can be and has been used to provide dance music for agency social events. Classical and semiclassi-

[5] Refer to Appendix B for complete bibliographical data and other listings.

cal recordings contribute much to music appreciation and other special interest groups. Musical and sound-effects recordings may be used to provide sound background effects in connection with dramatics, stunts, ceremonies, worship and inspiration services.

Many transcriptions of educational broadcasts, such as "Town Meeting," are becoming available. Educational radio programs are not utilized in agency programs as much as they might be, due to the fact that broadcast time seldom coincides with activity periods. In contrast, the recording can be used at any time. National and state government agencies regularly sponsor educational radio programs which are often transcribed and made available for use in community agencies.

Public Address and Sound Systems

Sound systems may be classified into two groups: portable public address systems and centralized sound systems. The portable unit involves the use of a microphone, an amplifier, and one or more speakers. Portability is attained by incorporating the features mentioned into one or two carrying cases. The several models now on the market vary considerably in cost depending upon factors such as amplifier power, number of speakers, quality of the parts used, and the inclusiveness of the system. Where a sound motion picture projector is available, it can double for a public address

system by plugging a microphone into the projector's amplifying system.

A portable system is an essential piece of equipment in schools, churches, Y.M.C.A.'s, settlements, parks, and similar community institutions wherever the carrying power of the human voice is inadequate. It is being used as a voice amplifier in auditoriums, gymnasiums, banquet halls, and open air assemblies in connection with sporting events, parties, folk dances, and public lectures. Attached to a recording playback, it is commonly used to provide dance music, transition music for dramatics, and background music for dinner events.

The centralized sound system is a permanently installed public address system with a centralized control panel centered generally in the administrator's office. Power speakers are installed in all or a specified number of rooms in such a manner that voice, recordings, or radio programs may be cut into a designated room, section of rooms, or all speaker outlets. The larger systems are constructed so that several types of programs may be directed simultaneously to various parts of the building.

The program applications of this system are limited only by the capacity of the system installed. Institutions such as hospitals have sound systems which are wired to key rooms and are used exclusively for paging purposes. Large schools have installations capable of communicating radio, voice, or recordings to a designated

room or a series of classrooms. Some central systems are so arranged that personnel in the gymnasium or auditorium can cut in local microphones or recording playbacks for sound amplification in those rooms. Several large summer camps have powerful installations which can blanket the grounds with music or announcements, or which, by the use of selectors, can send programs to any or all buildings located on the camp grounds.

Radio

Radio is a mass communication medium. It has grown in the United States during the past twenty-five years from a few crystal sets and an occasional amateur broadcast to 60,000,000 radios in 25,000,000 homes and thousands of hours of professional broadcasts. Today more people are reached by radio than by most of the other communication media combined.

Radio as we know it today is confined largely to AM or amplitude modulation broadcasting and reception, yet a newer method of broadcasting called FM or frequency modulation promises in time to supplant AM broadcasting.

AM Broadcasting

AM receives its name from the nature of the transmitting wave used in the broadcast process. Sound waves audible to the human ear have a range of from 30 to 15,000 cycles or wave pulsations per second.

Sounds of this low frequency rate cannot be transmitted by radio, but electronic engineers have discovered that wave lengths having these characteristics can be broadcast if they are attached to an electrical carrying frequency of much higher order. The word *modulation,* therefore, refers to a mixed wave capable of being broadcast.

In standard broadcasting, the frequency cycles or pulsations sent out per second remain fixed, say at 550,000 cycles, while the power of the wave fluctuates in accordance with the nature of the sound being broadcast. This power fluctuation is known as *amplitude.* Thus, amplitude modulation means transmission of a mixed wave on a stable frequency, which varies in power according to the characteristics of the sound being broadcast.

AM broadcasting is now the primary means of radio coverage, but it has certain disadvantages. First of all, it is not a high fidelity medium. Limitations of AM equipment are such that only those sounds having a frequency range of 30 to 5,000 cycles are transmitted, while those audible sounds falling between 5,000 and 15,000 cycles cannot be broadcast. Another limitation is its characteristic of static interference. Lightning, electrical spark from motors, and other electrical disturbances are of the nature of amplitude modulation and are picked up freely by the receiving set when it is tuned to a station. Filters attached to receivers succeed

in eliminating some of these disturbances, but enough static comes through to limit the perfection of AM reception.

FM Broadcasting

FM or frequency modulation is a comparatively recent development in radio broadcasting. It remained in an experimental stage until 1940 when the Federal Radio Commission issued the first commercial licenses for transmission purposes. During 1944 some 46 commercial stations were using FM, while an additional 248 applications were pending, and there were 50,000 receiving sets in the hands of the public. FM activities were seriously curtailed during the war, largely because of limitations imposed on the manufacturers of equipment. Production is now getting under way and we can anticipate a many-fold expansion in stations, program coverage, and the number of listeners.

In FM the sound carrying wave is modulated with the power wave, but differs from AM in that the power wave remains stable while the frequency varies according to the nature of the sound being broadcast. FM waves have characteristics similar to those of light, namely, that they travel in straight lines. The horizon, therefore, is the limit of the broadcast range. This limiting factor is a distinct advantage, because it enables the operation of thousands of small FM stations within the 90 broadcast channels provided. The 900-odd sta-

tions now operating on AM are the optimum number that can be licensed, yet hundreds of towns and cities now lack local transmitting stations. FM will fill this need as its use becomes widespread.

High fidelity reception of FM is another characteristic which, when coupled with the advantage of many more broadcast outlets, will make FM rather than AM the radio medium of the future. The wave characteristics of FM enables the transmission of the full range of audible sounds, namely, 30 to 15,000 cycles. Music will be received with the full tonal range and little, if any, distortion. Static will be held to a minimum, because the receiver is so constructed that it is responsive only to the electromagnetic waves emitted by the transmitter. The radio receiving set, therefore, duplicates with high fidelity the program being broadcast from the local station.

Networks of affiliated FM stations will evolve slowly due to the fact that high fidelity station connections must await the development of relay broadcast transmitters. The wire connections now used by AM will not carry sound frequencies much beyond 5,000 cycles. Coaxial cable will carry full tonal ranges, but available cable is limited, and, at least for the present, the expense of laying additional cable is prohibitive. As television facilities expand, FM will be transmitted over the same relay channels. This should spur the development of both media.

Using Radio

Our lobbies and recreational rooms are usually equipped with at least one radio receiver, but rarely do we find a receiver in an organized program setting. We have used the radio extensively for entertainment purposes, but for the most part we have failed to use it in our educational programs. Radio today provides a potential source of program material. Talks, interviews, forums, timely current events, music and dramatic broadcasts are all available to the imaginative leader.

Radio programs are designed to reach all age groupings, and the subject coverage is sufficiently broad to encompass all of the program interests of any agency. Talks, interviews and forums concerned with socio-political problems may be used with groups interested in discussing public affairs; similar presentations related to child guidance and family living might be adapted to adult study groups; dramatic broadcasts may suggest techniques of treatment to agency dramatic organizations; children's story hours might be tied into the program activities of young children; and vocational education broadcasts may provide background information for discussion in young adult groups. The use of radio in public relations is already understood and common. These applications are merely suggestive. An analysis of broadcasting schedules in relation to

agency program considerations will reveal many possibilities of utilization.

Some community organizations are already investigating FM as a possible channel for both public relations and program work. Certain councils of social agencies and other groups of affiliated educational and service organizations have secured broadcasting licenses. Complete station equipment may be procured with a total expenditure of approximately $30,000. This sum distributed equitably over a number of agencies is not large when it is remembered that such an investment will make available an exclusive broadcast channel. Agencies might then make maximum use of radio in all aspects of program and public relations. This is not to underestimate the very real problem of producing programs of good quality.

Radio Sources

The local newspaper is the most common source of information relative to radio broadcast schedules. In addition leaders should regularly receive all network releases concerning regular and special educational and cultural programs.

Television

Television has been just around the proverbial corner for a number of years, but today it could expand into a billion-dollar industry which would affect either

directly or indirectly the economic and cultural life of every person in the United States. At the present time there are only a few thousand receivers in operation with most of these located in New York City. However, as equipment production gets under way, it is anticipated that the number of home receivers will run well into six figures. Plans have been completed which will provide, by 1948, television broadcasts from New York, Philadelphia, Washington, D. C., Cleveland, Chicago, and Hollywood. The lack of adequate relay facilities which will hook up television stations for network broadcasts has been a prime factor contributing to the delay in the expansion of this industry. As a direct result of wartime research the radio relay has been perfected, and as soon as the necessary relay chains have been constructed television coverage will span the continent with stations located in most of our large cities.

Using Television

Television today is of little consequence to the program planner, but tomorrow we can anticipate that it will become a vital concern. Television is ready to break, and we, as program workers, should be prepared to use it effectively when it does arrive. It is a cross between the radio and the motion picture; it has the vividness of one, and the timeliness of the other.

The program use of television will be dependent

upon the nature of its future broadcasts. We know very little concerning these, yet we may hazard a guess that the broadcast coverage will be somewhat akin to that of today's radio. The programs broadcast will have to coincide in time with agency group meetings or they will not be applicable to program work. The delayed broadcast is not feasible at this time, but experimentation is now under way which may provide a solution to this problem. The sound film may be the answer. If this should be the case, educational television programs should be available eventually to agencies in film form.

Television will open new channels for public relations and interpretation. Live talent shows will be presented more effectively, and, of more importance, excellent agency films projected over television channels will reach a larger audience than is now possible through group showings.

Facsimile Broadcasting

Facsimile broadcasting, as implied by the term, is a process of transmitting illustrations, diagrams, script, newsprint, maps, and other flat material over radio channels to recorders located within the coverage area of the transmitting station. It has been in an experimental stage since 1928. Just prior to the war facsimile transmission service was offered by a number of standard broadcasting stations as a special night service to a limited audience. This service is now being resumed.

Using the Facsimile Broadcast

The facsimile broadcast is now used primarily to send news copy, photos, and business documents to distant points by radio. It may be used eventually in conjunction with FM radio to present visual materials which tie into the educational presentations carried by radio. If a radio speaker, for example, is discussing statistical data, certain pictographs needed for interpretation might be presented as facsimiles and used for reference purposes. Its greatest application, however, will probably be in business administration. Large agencies having several branches might conceivably use wired facsimile channels to send out directives, reports, diagrams and similar materials. Adult study material may possibly be distributed in the same way.

Graphic Communications

The word *graph* is derived from the Greek language and means "to write." Thus, pictograph suggests picture writing, and photograph implies writing with light. Common usage has broadened the meaning of graphic, so that many materials are now included under the classification of graphic communications. We are here concerned with flat nonprojected visual materials which include photographs, illustrations, maps, posters, cartoons, charts, diagrams, and graphs. With photographs and illustrations leaders are familiar but some

of the other media are not used very effectively. Interest in maps, wall newspapers and other graphics has increased as the result of the war.

Maps

The wall news-map is proving to be an effective program tool. It was effectively utilized for public affairs education during the war by various branches of the armed forces, and it is now being used for the same purpose in factories, labor union halls, libraries, schools, and other community agencies. It is effective in getting attention and the map becomes more meaningful with the addition of illustrations and print.

Maps of sufficient size to be seen by the total group involved should be selected. Small maps from printed sources may be used with the opaque projector, or maps available as 3¼ x 4-inch or 2 x 2-inch slides may be projected before large groups.

Posters

The poster is designed for the instantaneous communication of a single idea. It uses bold form and color to catch attention and to influence attitudes.

In program work it may be used to promote activities, or to reinforce ideas secured through other types of presentation. It acts as a reminder to stimulate social consciousness. Poster making as a program activity pro-

vides an excellent means for securing active group participation. Members in order to express themselves through this medium must have a clear understanding of the subject being considered, and this calls for critical thinking and encourages individual expression.

Posters are widely used in public relations and interpretation programs to develop an awareness on the part of the general public to agency activities and objectives.

Cartoons

The cartoon is a symbolic line sketch which uses humor, satire, or ridicule to influence attitudes for or against the subject matter being presented. The reader must have a minimum of knowledge concerning the subject treated, otherwise the point of the cartoon is missed. Cartoons in booklet form are now being widely used by labor unions and action groups to reach large groups of nonreaders.

Public affairs study groups are using cartoons clipped from newspapers and weekly periodicals for the purpose of introducing a subject area or stimulating discussion. Where large groups are involved, small cartoons may be thrown on a screen by the use of the opaque projector. Excellent cartoons dealing with home and family living are available in booklet form from several of the large metropolitan newspapers. These may be used to stimulate discussion.

Wall Newspaper

This method of displaying art, poetry, news reporting, literature, and announcements is finding increasing favor in young peoples' conferences and study camps. The wall newspaper is a group project, it stimulates many kinds of creative ability, it is an excellent report or interpretation of a program. And no equipment for reproduction is necessary, just post it on the wall for all to see.

The Field Trip

The field trip is usually included in lists of audio-visual communications. It is effective because it brings a group into contact with real situations in their natural settings. Its limitation is one of time. Rigid program schedules often prohibit its use, yet careful planning and short trips present possible solutions to scheduling problems.

To provide an educational experience, field trips must be carefully planned. Planning involves the following considerations: First, the trip should be related to regular program activities; second, arrangements should be made in advance with the museums, industries, and institutions if other persons or organizations are involved in the tour; third, the group itself should be prepared for the experience through reading and discussion, or by viewing pertinent motion pictures

and related materials; four, adequate supervision should be provided; and finally, provision should be made for follow-up activities which grow out of the experience.

Objects—Models—Mock-ups

Educators believe that learning becomes more rapid whenever several of the senses are brought into play at the same time. Objects, models or mock-ups are effective aids because they utilize the senses of touch, sight, and often hearing, smell and taste. They are concrete communication materials which may be used advantageously in work with groups of all ages. The armed services found these devices to be very effective in their training programs. Cross sections of equipment with working parts displayed, large mock-ups of instruments, sand tables depicting planned military operations and similar aids were used in every phase of the training process. Similarly they have a role in skill-learning in crafts, camping, recreation programs, astronomy, science, and many other informal educational activities.

Chapter 3

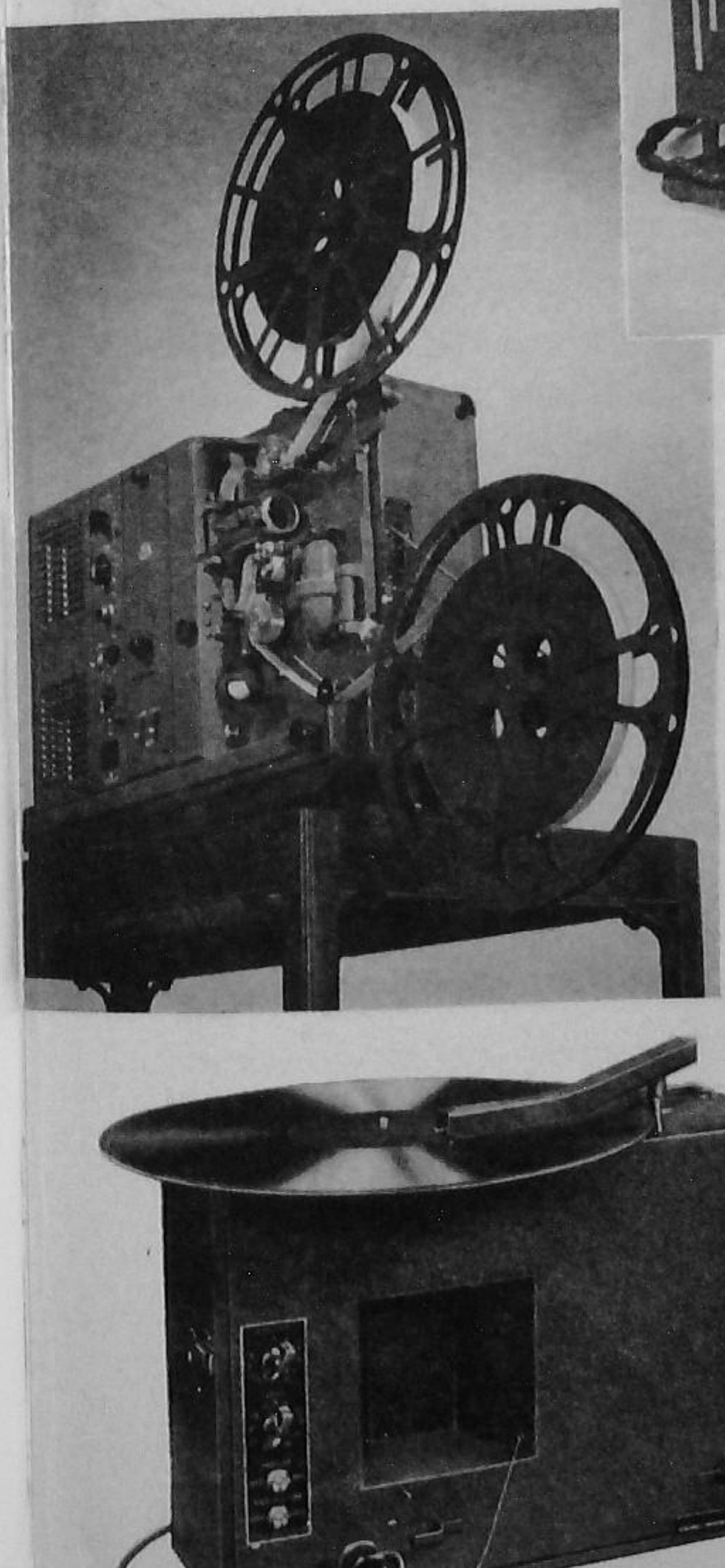
EQUIPMENT AND ITS USE

Not so long ago a director of a settlement house refused to consider the use of audio-visual aids because, he said, mechanically they are too difficult. Actually this equipment can be operated and cared for by children of an elementary school age, yet this kind of resistance is not too unusual. This chapter will deal with the subject of equipment, how to select it, how to use it, and how to keep it in good repair.

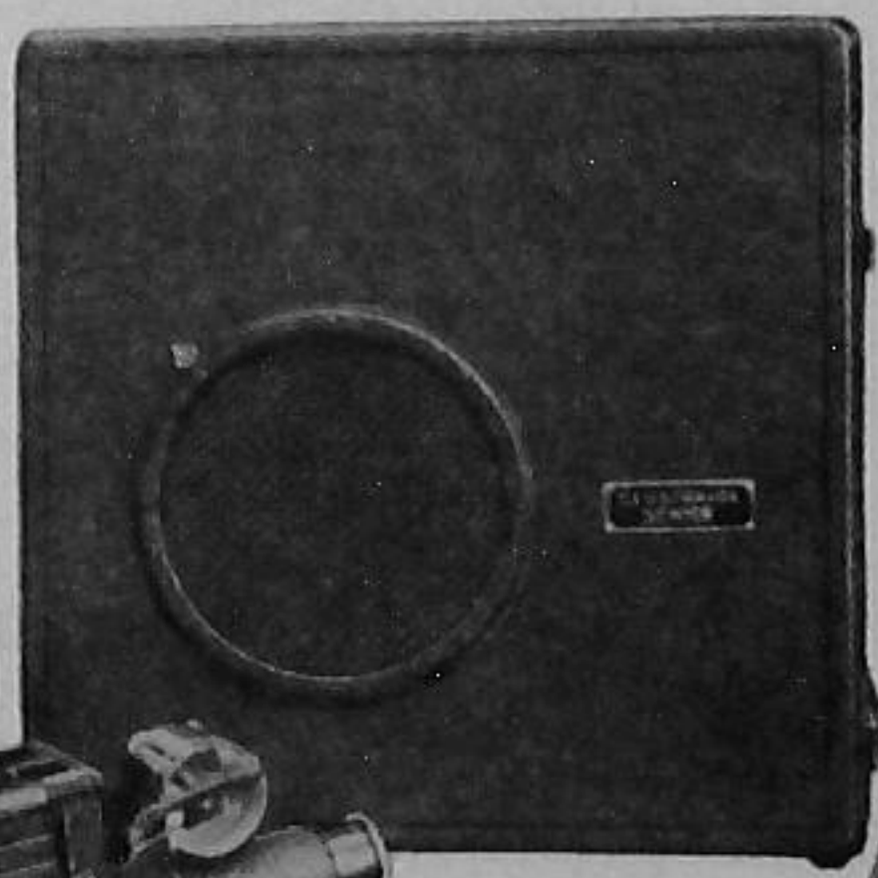
Selecting Audio-Visual Equipment

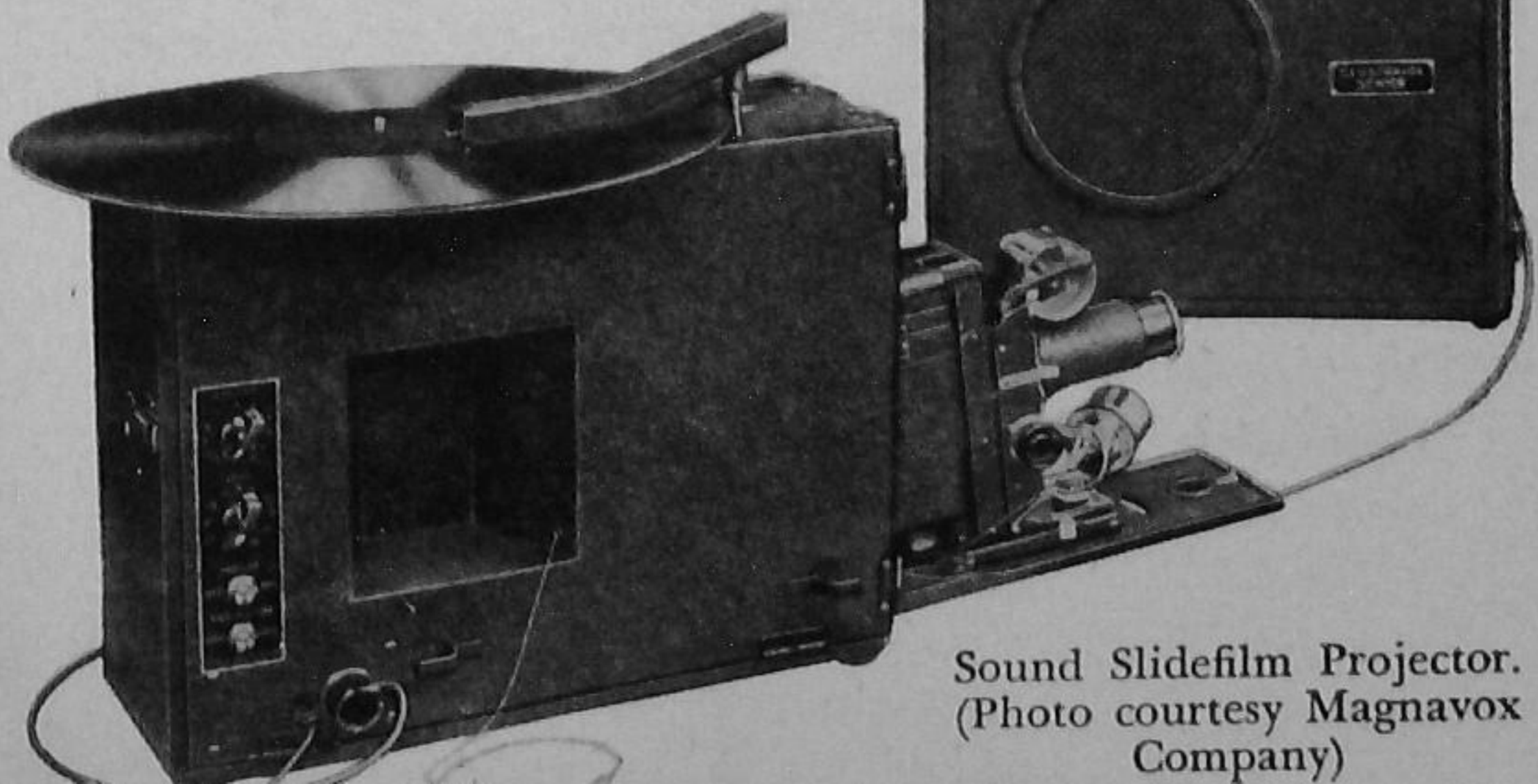
"What equipment do we need?" is a frequent question. No arbitrary answer can be given. Audio-visual equipment should be selected in relation to program needs and budget appropriations. One can begin with a slide projector and a screen for an outlay as small as $100, or even less. Some agencies start by acquiring a motion picture projector, and then add other pieces as the need for this equipment arises. If you are starting from scratch and are planning to use audio-visual materials *extensively,* an initial appropriation of approximately $750 will be needed for the purchase of what might be termed minimum equipment.

Combination 2" x 2" Slide and Slidefilm Projector. (Photo courtesy Society for Visual Education, Inc.)



Sixteen Millimeter Sound Motion Picture Projector. (Photo courtesy RCA Victor)





Sound Slidefilm Projector. (Photo courtesy Magnavox Company)

This will include a 16-mm sound motion picture projector, a good crystal microphone, a dual-speed record player, a combination slide and slidefilm projector, and two beaded projection screens. This combination unit can be used as a silent-sound film projector, as a public-address system, as a phonograph to handle either recordings or 16-inch transcriptions, and for 2 x 2-inch slides and single-or-double frame slidefilms.

Motion Picture Projectors

Most of the films now applicable to programs are in sound, and it is safe to predict that the largest percentage of future commercial productions will be made for sound. Do not try to economize with a silent projector. In the long run it will save you money and give you much better value to buy a sound projector, which will also handle your occasional silent films.

The operational features of projectors now on the market are essentially the same in all models. These projectors are auditorium models and come equipped with 750- or 1000-watt projection lamps, sound amplifiers varying from 12- to 30-watt loud speaker output, and a 2-inch projection lens. Optional use of 1000-watt projection lamps and interchangeable lenses of varying focal length are featured in most of these machines. Special features such as the film reverse, the safety trip clutch, and the single frame stop are unnecessary for most projection purposes. The auditorium models are adaptable to projection in both large and small rooms.

Classroom models having speaker, projector mechanism, and amplifier built into one case and, weighing considerably less than auditorium models, are expected to be available soon. They will be designed for use in small rooms, having short focal length projection lenses and amplifiers of low wattage output.

Unit projectors which go one step further toward simplified projection are already available. These incorporate the features of the classroom projector, but have in addition an enclosed translucent screen, and can operate on either alternating or direct current. Plug in the power cord, thread the film, and the projector is ready for operation. This is specially useful for frequent showings for small groups—for example, as a demonstration at a hobby show or annual meeting.

Criteria for Selecting Projectors

Considerable care should be exercised in the selection of a 16-mm sound motion picture projector. It is an expensive piece of equipment but if well chosen and properly maintained will give years of trouble-free operation. Reputable manufacturers are of course the best sources for securing motion picture equipment.[1] In addition to projectors, they distribute excellent auxiliary equipment such as microphones, screens, and recording and transcription playbacks. The following considerations should be kept in mind:

[1] Sources for procuring the audio-visual equipment discussed in this chapter are listed in Appendix C.

1. *Servicing Facilities.* Select a projector which can be serviced in your local community.

2. *Portability.* Choose the lightest projector which will render good service.

3. *Simplicity of Operation.* Simple film threading, accessible lamp, projection lens, and film gate, and centralized oiling are desirable features. Where films are screened more than once, a power rewind is needed.

4. *Noise of Operation.* Select a projector which operates quietly. A projection case eliminates a considerable portion of the operational noise.

5. *Interchangeable Lenses.* Projection lenses of varying focal lengths should be available, if needed.

6. *Focus.* Select a projector which will provide a sharp image on all areas of the screen.

7. *Jump, Flicker and Weave.* The screen image should be steady and without visible flicker at both sound and silent speeds.

8. *Sound.* Distortion, after making allowance for the acoustical characteristics of the room used, should not be apparent when the volume control is adjusted to maximum output. A tone control is a necessary feature on any projector.

9. *Comparison Test.* Test competitive projectors at the same time under the same projection conditions. Selection should then be made on the basis of performance, keeping in mind the above-mentioned considerations.

Slidefilm and 2 x 2-inch Slide Projectors

Excellent projectors are now available which will handle both 2 x 2-inch slides and slidefilms, or machines can be secured which will accommodate only slides or only slidefilms. The combination machine which has a projection lamp of at least 300 watts is recommended for most informal education purposes.

The standard combination projector comes equipped with a 5-inch focal length lens. When used with single frame slidefilm, this lens provides a screen image which

is approximately the same size as that of the 2-inch lens on a motion picture projector when both are projected from the same position. The substitution of a 7-inch lens will produce an image of the same size when 2 x 2-inch slides are used. Often slidefilm, slides, and motion pictures are used in the same presentation, and when this occurs it is helpful to place all of the projectors at one position in the room.

When selecting a projector, make sure that it is so constructed that the heat from the projection lamp does not injure the slides or slidefilm. Either heat filters or motor cooling systems are essential features on these projectors.

Sound Slidefilm Projectors

Sound slidefilm projectors may soon become an essential piece of program equipment. At the present time there is a dearth of sound slidefilms applicable to informal education programs but production is expanding rapidly.

This projector is a combination of a single frame slidefilm projector and a transcription playback with an amplifier and loud speaker. Agencies purchasing one of these machines might do well to select a model which has a 300-watt projection lamp in the slidefilm unit, a playback unit equipped with a dual-speed motor (78 and 33 1/3 rpm), and an amplifier of sufficient power for use in large auditoriums. If you already own

a slidefilm projector and a dual-speed playback you can use these just as well. To get sound, attach your record-player to your sound projector or public address system.

Opaque and 3¼ x 4-inch Slide Projectors

Projectors can be secured which will handle 3¼ x 4-inch slides, opaque projection, or both. The combination unit has been used extensively in church programs. Such a projector will be needed if you plan to use hand-made slides.

Recording and Transcription Playbacks

When purchasing equipment to handle recordings and transcriptions, try to secure a dual-speed motor which will handle both recordings which play at 78 rpm and transcriptions which play at 33 1/3 rpm. This equipment is available with either built-in amplifiers and speakers, or with phono attachments which can be plugged into public address systems or amplifier units of sound motion picture projectors. If an institution already owns a sound slidefilm projector, an additional playback will probably not be needed.

Dual-speed playbacks with phono-plugs can be purchased for $60.00 or $70.00. Agencies can, however, construct their own playbacks for about $30.00 by purchasing and assembling the needed parts, which include a dual-speed motor with turntable, an electrical switch,

a transcription pick-up arm, a phono-plug, and some electrical wire. These parts may be secured from radio wholesale-retail outlets located in many of our larger cities.

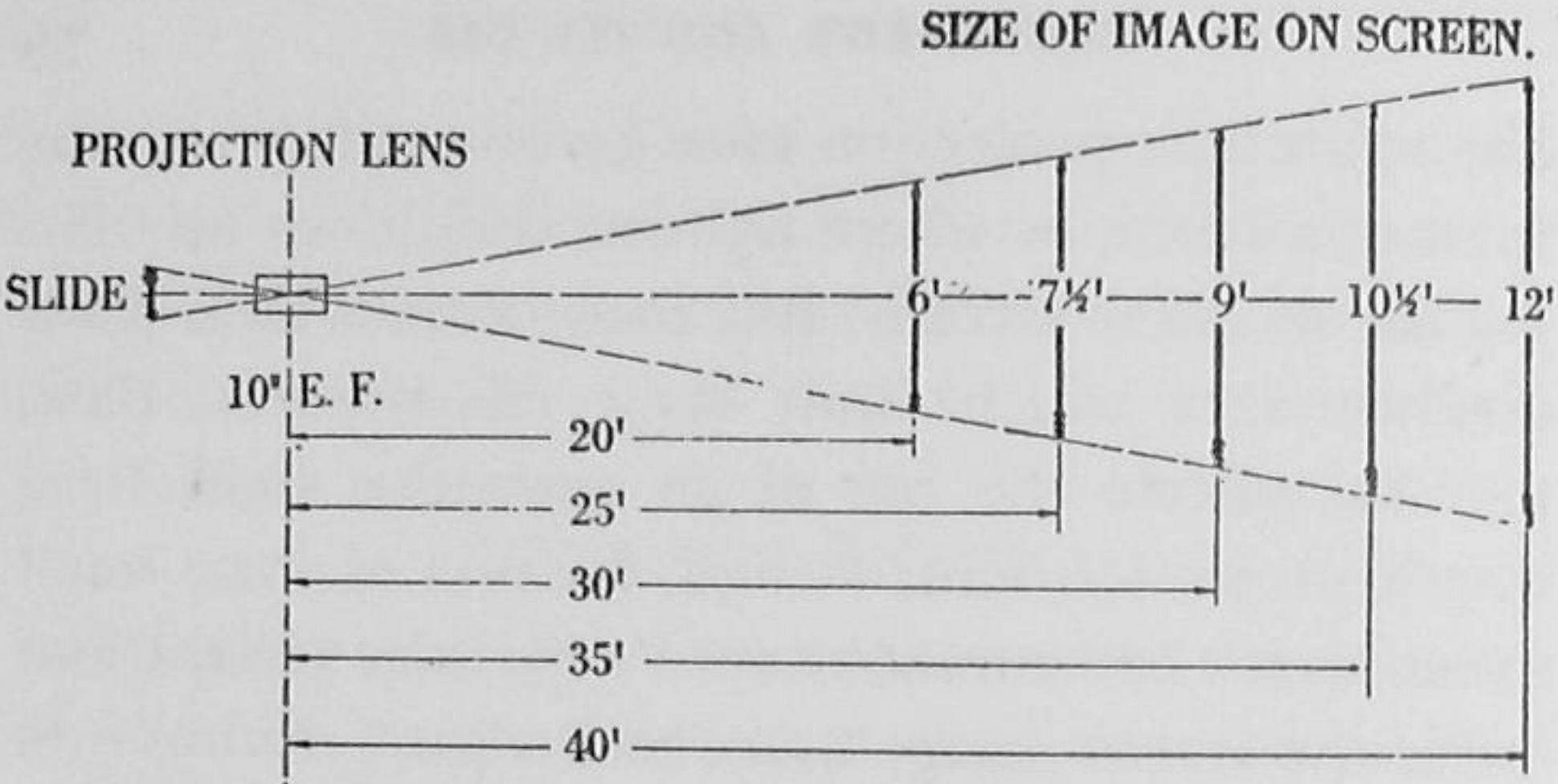
Projection Screens

Projection screens are more or less taken for granted, yet they are an essential part of projection. Screens are available with silver, beaded, white matte or translucent surfaces. The silver surface is designed for specialized projection and is not in general use. The white matte screen is useful for projection in square rooms or in rooms where the projection axis is shorter than the width of the room. This surface presents a uniform screen brightness to an entire audience seated within 45 degrees on either side of the projection beam. The beaded screen gives an average brightness three times greater than the matte screen within a viewing angle of 25 degrees on either side of dead center. Outside of this angle, brightness diminishes rapidly and distortion is evident at 45 degrees. The beaded screen is ideal for use in any rectangular shaped room, and gives superior performance for the projection of colored film and slides.

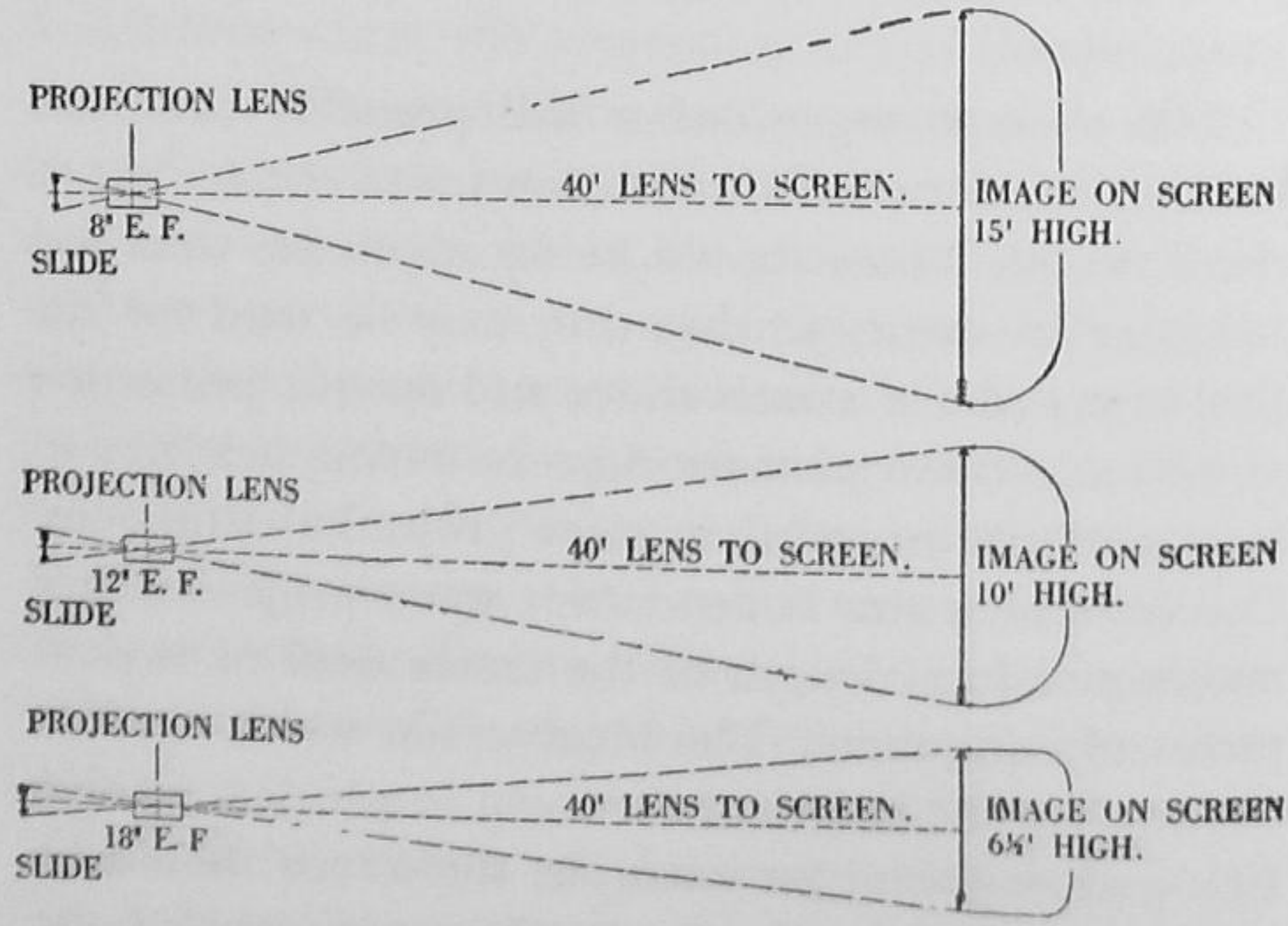
Translucent screens which transmit rather than reflect light accommodate the rear projection of visual materials. They may be used to advantage in situations where projection space is restricted (window or lobby

display), where projection must be controlled from the front of a room, or where lighting conditions prohibit the use of other screens. But these screens have three disadvantages which limit their effectiveness. First, they necessitate the use of an expensive short focal length projection lens; second, because of their small screen area, they cannot be used with large groups, and third, the screen image must be inverted during projection which is accomplished by placing a mirror between the lens and the screen. Temporary translucent screens may be constructed at low cost by stretching a piece of architect's tracing cloth over a wood frame of proper size.

The average organization will probably need two screens: one for use in auditoriums, and one for use in small rooms. These should be square rather than rectangular in shape, so that they may be used for the projection of 2 x 2-inch slides and opaque projection as well as motion pictures. Screens having beaded surfaces will prove useful in most projection situations. Correct screen size is dependent upon projection distances and focal length of the lenses used in various pieces of equipment. The ideal screen width is about one-sixth of the length of the room in which it is used. In a 50-foot room, for example, the screen should be approximately 8-feet in width. The screen tables to be found in Appendix E of this manual will prove helpful in determining the correct sizes needed.



Size of screen image varies directly with the distance from the projector to the screen. (Diagram courtesy Bausch and Lomb Optical Company)



Where distance between lens and screen remains constant, the size of the screen image is inversely proportional to the focal length of the lens used. (Diagram courtesy Bausch and Lomb Optical Company)

Adapting Rooms for Projection

The room layout in most agency buildings is frequently a source of difficulty. The architects who planned the present structures gave little thought to acoustics, electrical outlets, and lighting, which are critical factors in the presentation of audio-visual materials. Consequently, some improvisations must be made to secure smooth and efficient projection.

Room-darkening

Where rooms are used regularly for projection, provision should be made for easy control of room illumination. The techniques of room-darkening most commonly used include the following: roller shades, drapes, window inserts, painting window areas, and venetian blinds. Ease of operation, costs, ventilation, and appearance are all factors that should be weighed before any final decision is made as to the type best suited to any particular room.

Roller shades are most frequently used to exclude sufficient light to enable good projection. Black or dark opaque shades are inexpensive and if properly installed will render satisfactory service. Wood stripping or side boards of window length which are mounted on hinges in such a manner that they overlap the edges of the extended shade are frequently used to exclude additional light. The side boards when not in use can be

folded back over the window frames, and, if they are painted to harmonize with woodwork, they do not detract from the appearance of the room.

Drapes provide an excellent means for blacking-out a room. They are both efficient and economical. When selecting materials secure an opaque and fadeproof cloth, such as blue denim. Other materials may be used, but the chances are that they will fade when exposed to light for long periods of time. Experience has shown that the best method of hanging heavy drapes is a roller track mounting. Light-tight ventilation can be insured by setting this track out three or four inches from the window frame.

A temporary expedient for darkening gymnasiums and rooms having similar characteristics is the window insert. Panels of heavy cardboard, wallboard or plywood, cut to fit tightly into the window frames may be quickly inserted to darken a room for projection. But problems associated with poor ventilation and panel storage should be considered before this technique is adopted.

Where a room is used exclusively for projection purposes windows may be blacked out by painting. A water soluble paint, which can be washed off if desired, is recommended for this method of room darkening. Provision should be made for ventilation. Perhaps a light trap fitted over one of the windows or forced fan ventilation.

Rooms already equipped with opaque venetian blinds can sometimes be used but blinds of this type permit a good deal of light seepage. This is especially true where projection rooms have a southern exposure.

Ventilation

Ventilation is not a problem when projection equipment is only used for short periods of time, but it should never be ignored during extended showings. *A stuffy room always leads to drowsiness and inattention.* Forced ventilation may be provided by fans installed in a window or placed in the transom over the door. Where this type of air circulation is not provided, the darkening methods used must be adapted to take care of this need. Space between curtains and windows, light traps located at the bottom of windows, or the opening of several windows an inch or two are suggested as means of securing needed air replacement.

Acoustics

The acoustical properties of rooms are affected by walled surfaces, structural characteristics and room size. It is seldom that you have any control over these factors. Where a choice of rooms is possible, test the equipment in various rooms and then select the one having the best acoustics. Remember that the audience itself is an acoustical factor. Clothing is an efficient sound

absorbent material, consequently a well-filled room can do much to improve the sound rendition.

The operator may further improve sound rendition by properly placing the speaker and by adjusting the volume and tone controls of the audio equipment used. This is discussed in detail in the section on Operation.

You will be repaid in better performance if you give sound treatment to the rooms most frequently used for presentation. Acoustics may be improved by either permanent or temporary installation of sound-proofing materials. Acoustical plaster, insulating wallboard such as Celotex, or combinations of both may be applied to walls and ceilings, or you can hang drapes from the ceiling on one or more wall-surfaces. Where drapes are used to black out rooms for projection, they serve an acoustical function as well. This treatment need not be an expensive undertaking if care is taken in the selection and placement of sound deadening materials. Whole rooms need not be covered, instead large surface areas should be broken up by the judicious placement of panels of Celotex, heavy cloth, acoustical plaster, hanging drapes, large cloth covered screens which are set in position prior to a projection period, or rugs thrown over the floor will contribute to better sound reproduction. Additional ideas may be secured by reading the pamphlet, *Acoustical Treatment of Auditoriums.*[2]

[2] Bell and Howell Co., 7100 McCormick Road, Chicago 45. 1945.

Electrical Considerations

To avoid last minute disappointments and delayed programs, certain precautions should be taken. First, check to see whether alternating or direct current is available. Most audio equipment is designed for 110-volt A.C. operation, and converters must be used to adapt direct current. Occasionally only 220-volt A.C. is available; in this instance you will need a step-down transformer. Next, check the fuse boxes of the power line to make sure that 20-ampere fuses are used. Motion picture projectors create a heavy electrical load which may cause a fuse of lower rating to blow during operation. Switches should be examined to make sure that the power going to the equipment is not cut when the room lights are turned off.

In permanent installations all wiring should be concealed. Electrical outlets may be placed near the equipment, and the speaker cord may be concealed under the floor by running it through B X conduits. Detailed descriptions concerning permanent installations may be found in the booklet, *Architect's Visual Equipment Handbook*.[3]

Operating the Projector

Detailed descriptions of operational procedures involving all types of audio-visual equipment is beyond

[3] Bell and Howell Co., 7100 McCormick Road, Chicago 45, Illinois, 1945.

the scope of this manual. The operation of the sound motion picture projector is, however, discussed in some detail. Many of the procedures presented in this connection are common to other types of equipment. The outline which follows has been used as a projectionist's training manual.

Be prepared. Check to see that needed spare parts and tools are on hand to meet unforeseen emergencies. These include: 400′, 800′, 1200′, and 1600′ take-up reels, projection and exciter lamps, power circuit and amplifier fuses, belts, oil can, camel's hair brush, lens tissue, soft lintless cloth, flashlight, screw driver, and extra-power extension cords.

Check power outlets. Verify type of electrical power available. Projectors, unless specially wired, operate on 110-volt alternating current. If the projection room is equipped with direct current, a converter must be used. Make sure that the projector and room lights operate on separate circuits.

Arrange projection screen. When determining the position of the projection screen, keep the following considerations in mind: effective viewing angle of the screen being used, elimination of side lighting, height of the screen in relationship to the audience, and the longest projection axis possible in the room being used. Occasionally an improvised screen must be used. The following materials are suggested: large white desk pad, light colored roller shade, white oilcloth sheet, bed

sheet, back of a large map, cheesecloth stretched over a frame, or a light nonglossy wall surface.

Mount projector. Place projector on a solid stand at the approximate distance where the picture image will fill the screen. Experiment or consult screen projection tables to determine this distance (e.g., if the screen is 52 x 72 inches and a standard 2-inch projection lens is used, the projector should be set up 30 feet from the screen). A projection stand at least 42 inches high will enable projection over the heads of the audience.

Plug in extension cord. Plug extension cord into circuit outlet, but do not attach it to the projector. Make certain that the cord is of sufficient length to reach the projector.

Set up speaker. Place the speaker at the ear level of the audience on a stand near the screen. Never place it on the floor or against a wall, otherwise sound distortion will be evident. Take out the speaker cord, connect the proper plug to the speaker, and close the speaker case. If the speaker case has an open back, cover it with a coat or small throw rug. Now wind the speaker cord and distribute it along the walls of the room in such a way that it will not be stepped on. Carry it to the projector stand and, after making two turns around one of the legs, plug it into the projector.

Assemble reel arms. Assemble reel arms and adjust projector belts.

Connect power cord to the projector. Wrap the pro-

jector end of the extension cord two turns around one of the legs of the stand before plugging it into the projector. A rug thrown over the power cord at the point of transit is another precautionary measure. If a direct-current converter is used, make sure that the power cords are properly assembled. Converters now in use do not supply sufficient alternating current to operate the total projector. Some projectors are wired so that direct current will operate the motor and projector lamp, and alternating current from the converter will supply power for the amplifier. In other models, direct current supplies the lamp and alternating current supplies the motor and amplifier. In any case, *alternating current must go to the amplifier*. If by accident direct current is plugged into the amplifier, the projector will start to smoke or a fuse may blow. Pull the power cord at once so that the amplifier will not be seriously damaged.

Turn on amplifier switch. Throw the amplifier switch to the "on" position, turn up the volume control, and allow the amplifier to warm up. In a few seconds the speaker should emit a loud hum. If it does, the projector is properly assembled. Now turn the amplifier off.

Turn on projection switch. Snap on the projection switch and then the projection lamp. Adjust the tilt mechanism so that the image is centered on the screen. Now focus the image of the aperture sharply. The pro-

jector may need to be moved nearer or farther away from the screen to secure an image which fills the screen, allowing of course for a small margin on all edges.

Clean and oil the projector. The film gate and the sprocket wheels should be examined. If dirt or film emulsion is in evidence it should be removed with a soft lintless cloth. Clean the film aperture with a camel's hair brush, and the lenses with lens tissue. These preliminary operations will assure a sharp and clear picture image, and they will protect the film from unnecessary scratches. Oiling is essential to good operation but it should be executed according to a schedule outlined in the manual which accompanies every projector. Over-oiling can ruin a good machine.

Thread the film. Threading procedures are essentially the same in all projectors, yet they vary in details. It is wise to check the threading diagram located in the projector case in each instance. Make sure that the film loops are of proper size, inasmuch as many projection difficulties stem from improper film loops. After threading has been completed, check to see that the film is in the channel back of the film gate, and that the film sprocket shoes are in closed position. If the projector is equipped with a manual film advance knob, turn this knob a few times to see that the film moves easily.

Test projection. Snap on the amplifier switch, and after the amplifier has warmed up, throw the projection switch and then the projection lamp switch. The pro-

jection and lamp switches should never be thrown at the same time, because this operation creates a power overload which may blow the circuit fuse. Now focus the image critically on the screen and lock the lens in position. If both black and white and color film are used in the same program, the focus may need to be altered slightly. In black and white film the emulsion which carries the images is located on one side of the film, and in color film it is located on the other side. The thickness of the film base is sufficient to throw either type out of focus. The volume and tone should be adjusted by stepping away from the projector. Now with the machine in operation, test room acoustics. The speaker should be tested in different room locations to obtain the best sound. In some rooms the best location may even be found at the back of the room. After the speaker has been placed, turn off the machine, rewind the film, and rethread.

Darken room. Darkening a room is a daytime projection consideration. Color film should always be projected in a well darkened room, while black and white film, on the other hand, can be seen satisfactorily in a semi-lighted room. Keeping extraneous light from striking the screen is the secret of good projection. If a room cannot be darkened, a fairly good image can be secured by placing the screen in such a position that direct light rays do not hit the screen. Projecting diagonally across the room or using a shadow box or a blan-

ket draped over the screen in such a manner as to cut off direct light rays are possible solutions to the problem. Another technique is to move the projector closer to the screen. This provides a smaller image but one which gives much brighter screen illumination.

Arrange seating. Correct seating is a consideration which should never be overlooked in a film showing. It is related to screen position and the type of screen used. The width of any given row of seats should not be greater than its distance from the screen.

Show the film. When the cue for showing has been received, snap on the amplifier switch. As soon as the amplifier has warmed up, signal "lights out" and throw the projector switch. The lamp switch should be thrown as the film title enters the film gate. This can be ascertained when the introductory music comes up, or by previous cues secured during the testing operation. As the film runs through the machine, it should be inspected occasionally for possible damage. Allow the film to run freely between the thumb and index fingers as it comes from the projector. Tears or sprocket teeth perforations on the film are a signal to stop the machine and rethread. Watch the tension on the take-up reel, and *never* leave the projector while it is in operation. When the end title appears on the screen, switch off the projection lamp and turn the volume control to "low" position. Shut off the projector as the end of the film comes from the projector.

Rewind the film. Consult the threading diagram in the projector case to ascertain the method of rewinding. Never rewind during a program unless a re-showing is desired. Films secured from film libraries should not be rewound after the final screening.

Dismantle equipment. With practice, dismantling of equipment can be accomplished within a period of two minutes. It is desirable, however, to do this work after the meeting has ended, otherwise, undesirable distractions will spoil the proceedings. Speaker and extension cords should be wound carefully and stored in the speaker case. Before leaving the room check to see that all equipment and spare parts have been collected.

Trouble Shooting

The motion picture projectors now on the market are not perfect mechanisms. Many things can go wrong and often do even with the newest models, so the projectionist should constantly be ready to diagnose trouble and make minor corrections. Anything more serious than changing lamps, tubes, and belts, handling film breaks, or cleaning and oiling projectors, might well be handled by a service agency. Common projection troubles and suggested remedies are discussed below.

Loss of film loop. The loss of the lower film loop is a frequent occurrence in projection. When this happens the screen image will jump and blur, and a clicking sound will be audible. With some projectors it is

possible to pull the loop down with the fingers while the machine is in operation. With others, projection should be stopped, the film gate opened, and the film shifted to regain its loop. The loss of loop may be due to a dirty pulldown claw, an improperly adjusted claw, a bad splice in the film, broken sprocket holes in the film, or too much tension at the film gate. If this trouble occurs frequently and is not due to bad film, the projector should be sent to a service agency for adjustment or replacement of the pulldown claw. Loss of the upper loop is generally caused by improper closing of the shoe on the intake sprocket.

Picture unsteady. When this happens, an examination of the threading will probably reveal that the film loops are too small to compensate for the intermittent action of the pulldown claw. To remedy, stop the projector and rethread, allowing for larger loops. In certain projectors, new or "green" film will stick in the aperture gate and cause an unsteady picture. If a larger loop will not compensate for this difficulty, stop projection. Continued operation may cause serious and costly film damage.

Poor illumination. May be due to a dirty projection lens, a dirty condenser lens, a dirty or blistered projection lamp, or outside light falling on the screen. To remedy, clean lenses with lens tissue, replace projection lamp, or alter screen position.

No picture or sound. Indicates that current is not

reaching the projector. Test power outlet with a small wattage lamp. If it fails to light, the circuit is dead, and a new line fuse will probably remedy this trouble. If the lamp does light, the trouble lies in the extension cord. This should be replaced or repaired.

Picture but no sound. May be due to failure to turn on the amplifier, a burned-out amplifier fuse, a disconnected speaker cord, the volume control not sufficiently advanced, the exciter lamp burned out or loose in socket, a defective photocell, dirt covering the photocell aperture, a defective loudspeaker, and loose or defective amplifier tubes. A burned-out or loose exciter lamp is the most frequent cause of sound failure. It can be easily replaced or adjusted. To check the amplifier fuse, use a small coin to unscrew the fuse cap. If after checking connections, switches, the exciter lamp, the fuse, and cleaning the photocell aperture, the power is still off, then the projector should be sent to a maintenance agency for repair.

Sound but no picture. Check lamp switch to see if it is on. If it is, the projection lamp is burned out. Use a handkerchief or piece of cloth to remove the hot lamp, and do not touch the lamp housing. Otherwise a serious burn will result. Replace with a new lamp and proceed with the showing.

Distorted sound. In most instances distorted sound is caused by improper film threading. A film loosely threaded over the sound drum does not maintain suf-

ficient tension to give good sound rendition. Tighten the film so that the pressure roller will function properly. Dirt over the photocell aperture may also cause sound distortion. Clean with a camel's hair brush. Defective tubes, switches, volume control, loose wire connections, broken speaker cord, or a voltage drop in the power line may also cause sound distortion. Corrections in these instances should not be made by the projectionist.

Broken film. If a film breaks during projection, do not attempt to repair it. Never use a clip, pin, or staple to attach the broken ends. To do so may cause a serious injury to the film inspector who examines the film as it is being rewound at high speed. The usual procedure is to release the film in the projector, advance it a sufficient distance to allow for overlapping on the take-up reel, rethread, and resume projection.

Chapter 4

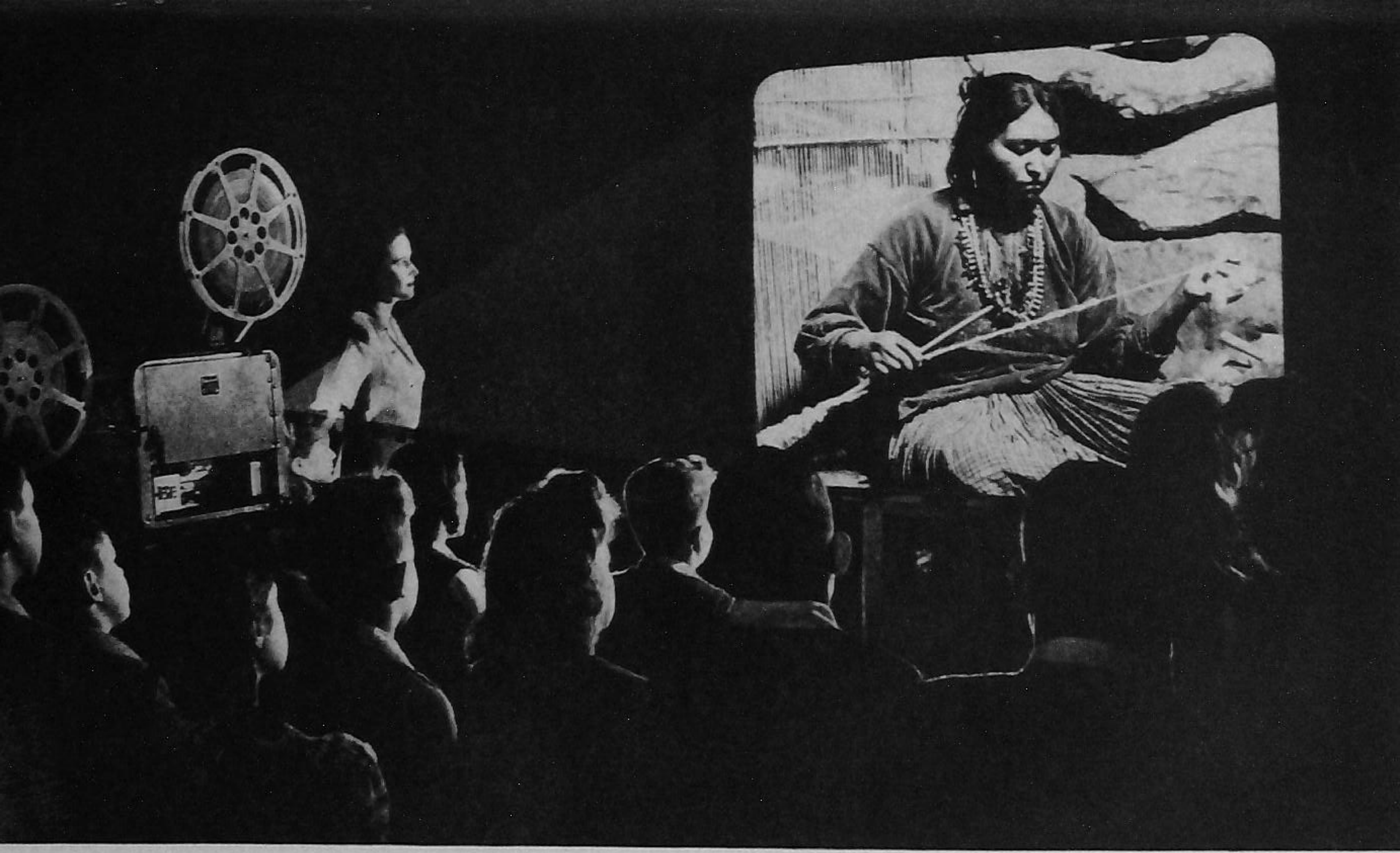
PRINCIPLES OF UTILIZATION

THERE IS nothing magic about a motion picture! There is no guarantee that if you screen one there will inevitably be a result of educational significance. Audio-visual aids are just that, they are means by which educational purposes can be achieved. They are exceedingly helpful media—if they are used effectively. You do not just "show a movie." You *do* decide carefully what your objective is, whether audio-visual materials are likely to contribute to that end, and then select and use them accordingly.

Certain principles of utilization have become well established as a result of years of experience in utilizing audio-visual materials in programs of formal and informal education. These principles involve *preparation, presentation, application,* and *follow-up.*

PREPARE YOURSELF

In many organizations the audio-visual program is nothing more than a series of unrelated film showings. The films used are often selected by a film distributor without any consideration being given to subject con-



Movies in the Club Meeting. (Photo courtesy of Bell and Howell Company)

tent or age levels of the groups involved. Here a minimum of preparation is made, and the educational results, as might be expected, are negligible. Careful planning is the first requisite of good utilization. It involves the selection, preview, co-ordination of materials, and a plan for integrating these materials into the program activity.

Select Your Materials

A great deal of audio-visual material is available to the program worker, but only a few items will be found appropriate for use in any specific program activity. As already suggested, materials will contribute little to a program unless their content can be integrated into the flow of group experiences. To facilitate appropriate selection, the group leader should carefully analyze program objectives. He should ask himself such questions as the following:

1. What do I hope to accomplish through the use of audio-visual material?
2. What are the over-all objectives of this program activity?
3. What are the specific objectives of the program in which audio-visual materials will be used?
4. Which audio-visual medium is most appropriate for use in this program—the motion picture, the slidefilm, slides, recordings, etc.?

The contribution of various media must be weighed in terms of these established objectives. In certain instances the motion picture will prove to be the logical

program tool, while in others it may be the slidefilm or some form of graphic illustration. In any event, a single aid such as the film should not be used when another would prove more profitable.

Having established the objectives and chosen the appropriate aid, the program worker is ready to select the specific material. Information regarding the content of audio-visual material may be secured from catalogs and finding lists, from previews of motion pictures, slidefilms, and the like, or it may come from persons who are qualified to offer guidance in the selection process. Printed source materials, including catalogs and location tools, are described in Chapter 2. Previews of films and related material are often held in connection with professional conferences, workshops, institutes, and community-wide in-service training meetings. When a program worker has an opportunity to attend such previews he should do so. The first-hand experiences gained will often prove to be of greater value than hours spent thumbing through catalogs and guides. Information secured from experienced film users may sometimes prove helpful, but do not go too much by the opinions of others. Where materials work well in one program setting, they may not work as well in others.

As the program worker becomes familiar with sources and the nature of materials, he will find that program coverage and method of distribution varies with each medium. Motion picture films are generally rented or

borrowed for short periods of time, while other audio-visual materials are available through purchase. In many of our metropolitan communities the program worker may borrow needed slidefilms, slides, recordings, and related aids from public libraries, schools, museums, commercial organizations, and neighboring community agencies. To avoid possible disappointment, materials should be ordered far enough in advance of anticipated use to guarantee their availability when needed. Motion picture films, especially, should be contracted for a month or two in advance of planned showings. When ordering it is always a wise plan to give a second choice of date and of subject, if that is possible.

See It First Yourself

Previewing, the second preparatory step in the utilization process, is often neglected, yet it is as important as careful selection. The program worker should be familiar with the content of the material selected before he presents it to his group. Instructors do not assign books to their students without first having read them, yet in the use of films these same persons often see a motion picture for the first time when it is projected before their classes. Such application is a violation of good teaching principles. The content of specific material, selected on the basis of a catalog description, may not always fit the needs of a program group. In such instances the preview enables the leader either to adapt

the presentation to fit the material, or to discard the material as being useless.

Those with longest experience with audio-visual materials insist on the maxim *never use in a group any aid you haven't seen.* This applies to entertainment as well as instructional films.

Use All the Aids That Fit Your Objective

There are occasions when an audio-visual presentation can be enhanced by the use of supplementary aids. These additional aids can often be used to point up issues, or to present information which will further interpret the content of the primary communication medium used. In a program group where the film *Brotherhood of Man* is used to provide a setting for a discussion of interracial understanding, the leader would find the slidefilm *We Are All Brothers* and the pamphlet *Races of Mankind* helpful as supplemental aids to provide additional facts and thus to clarify thinking.

The blackboard is more or less taken for granted, yet it should not be overlooked as a potential visual aid in any discussion process. Posters, maps, charts, photographs, and other forms of graphic illustration are generally used as supplementary aids in formal instruction and can contribute much to informal education programs if they are used appropriately. A word of warning may be in order. Supplementary aids should only

be used if they contribute significantly to your program, otherwise they may prove more distracting than helpful.

Planning the Presentation

The final preparatory step involves the integration of the selected materials into the scheduled program. Plans for utilizing the materials should include a suitable introductory statement, and the preparation of your group. It may also include the developing of a series of questions which will act as primers during the discussion period.

Prepare Your Group

The introductory statement is an important aspect of the presentation, because it sets the stage for satisfactory educational experiences on the part of the group members involved. In the introduction the leader might point out the relationship of the material to the program objectives, include a brief summary of content, and suggest what to look for. When motion pictures are used an introduction is especially valuable. Film images move so swiftly that groups sometimes need to be advised of what to watch for. The introduction reminds the group that they are not witnessing an entertainment movie but are looking for information or an issue or a skill.

You will probably have given your group some ad-

vance warning so that they will see the relevance of the audio-visual material. You can do this by having a committee help you in the selection, by having the group do some background reading, or by giving them prepared film study guides, or you may simply have advised them in advance of the program to come. Such preparation helps the group get more out of your program and has a direct effect on motivation.

Questions are excellent primers for discussion, and may be used in addition in any informal testing period. During the preview session, the leader might jot down notes relative to content and then use these notes to frame his questions. Another possible source of questions is the group itself. As a part of the orientation process, the leader might have members of the group write out questions which they would like to have answered during the presentation period. This procedure stimulates active participation.

Presentation

After the introduction, the material is presented. Where audio-visual presentations involve the use of equipment certain physical considerations should be taken into account. These involve ventilation, acoustics, lighting, seating, darkening of the room, and other factors, all of which were dealt with in detail in Chapter 3.

Screen Again

Where motion pictures or slidefilms are used, a re-showing of the films or sections of the films may be desired. A few questions related to the content of the films may be directed to the group to determine whether or not a re-showing is necessary. Re-showings are seldom made in connection with forum or discussion groups, but they can contribute much in any skill training program and sometimes in using informational films as well.

The nature of the activity determines how the supplementary aids will be utilized. In certain programs these aids should be presented immediately following the presentation of the primary material. In others, they can contribute more to the learning process if they are used during the discussion period.

Application

Information, attitudes or ideas gained through an audio-visual presentation should be reinforced while they are still fresh in the minds of the participants. As we are aware, audio-visual materials provide the learner with concrete experiences. Application enables the individual to better understand the meaning of these experiences.

Practice, testing, and discussion are three useful steps. Where the learnings are applied to the manipulation

of materials or physical skills it is desirable to have the needed materials, equipment, and facilities available for immediate use. In a handicraft class, for example, where a film or a demonstration is used to explain a craft process, material and working facilities should be ready so that class members may put the knowledge gained into immediate practice. In a physical education class, the members should be properly attired and needed equipment should be available for application. This suggests that audio-visual materials should be presented in settings favorable to immediate application. Should the application period demonstrate that individuals have not mastered the material presented, it is then a simple process to re-show the film or parts of the film as needed.

In many group meetings discussion guided by the leader is the most appropriate form of application. A discussion outline prepared by the leader during the planning stage of utilization is often helpful. If questions are prepared by the leader or suggested by group members prior to the presentation, these questions might be used to guide the discussion. Discussion is an excellent form of application inasmuch as it clarifies misconceptions, fosters creative thinking, and stimulates participation.

Large industrial corporations have discovered that a short true-false checklist is an excellent aid to training whenever films are used. The checklist is administered

prior to a film showing, and again at the end of the presentation. It stimulates interest and provides an excellent foundation for a lively discussion. This or similar types of informal testing may be used to advantage in many informal group settings.

Follow-up

Follow-up activity may take various forms, depending upon the interests and past experiences of the individuals in the group. A film presentation, for example, might conceivably arouse interest to explore further the ideas presented. This exploration might take the form of viewing additional films, slides, slidefilms, or listening to transcriptions and using other audio-visual material. In a public affairs discussion group, for example, where the film "Now the Peace" is used to bring information about the United Nations, the group might indicate an interest to follow-up the atomic control aspect of the problem. The slidefilm *How to Live with the Atom* or the film *One World or None* might then be presented at the next meeting of the group.

Reading is a follow-up activity common to the formal education field. Informal groups can profit from this activity providing readable materials are available. Pamphlets such as the series published by the Public Affairs Committee, Inc., appeal to informal groups.

Special group projects such as field trips, surveys, and dramatic presentations may develop.

Chapter 5

ADMINISTRATION AND SUPERVISION OF THE AUDIO-VISUAL PROGRAM

IT HAS already been noted that a full and comprehensive use of audio-visual aids is rather a complex undertaking. That does not mean it is difficult, but it does mean that care must be taken in developing constructive administrative policies.

Centralized Use

Centralized administration is necessary. Why? Because the characteristics of these media and the way in which they can best be used demand such organization:

1. The equipment is expensive and of necessity its use must be shared by all departments. Scheduling must be centralized.

2. The equipment must be stored and properly maintained. This responsibility must be delegated to one department.

3. Audio-visual projection rooms must be shared. Scheduling again must be centralized.

4. Much of the audio-visual material used must be secured from sources outside the agency. Ordering should be centralized to save money.

Student Operators Cleaning and Oiling a Projector and Splicing Films.
(Photo courtesy Bell and Howell Company)

5. Materials owned by the agency should be available to any department.
6. In-service training in the use of audio-visual materials is a necessary aspect of any program. To be effective, it should be handled by one department.

The larger school systems maintain audio-visual departments with full-time directors in charge of the program, while the smaller schools have solved the problem of centralization by appointing a teacher committee to handle planning and co-ordination. In the latter instance a member of the committee is generally appointed to act as a part-time audio-visual director. Many of the policies followed in the schools might well be adapted for use in community organizations. National agencies and metropolitan organizations having several branches may find that an audio-visual department with a full-time director will best fit their needs, while the smaller community groups may discover that a standing committee and a part-time director are desirable. However, as had been pointed out earlier, this committee or department provides service to all the programs of the organization; it does not have a separate program of its own.

The Audio-Visual Committee

To expedite the planning and use of audio-visual aids in program, an advisory committee should be appointed representing all the administrative and program interests of the organization. Such a committee

functions best as a policy-making rather than an administrative body. Its functions are:

1. To recommend budgets to the administration and to suggest ways of financing.
2. To determine policies which will expedite the wider use of audio-visual materials.
3. To determine policies which will provide an effective in-service training program.
4. To counsel with the director on matters pertaining to administration.
5. To evaluate the work done.

The Audio-Visual Director

An effective use of audio-visual aids in program can best be attained when the administration is delegated to a single person. In large organizations this person may be a full-time director, but the part-time service of a staff member who also has other staff duties will often be sufficient. In considering a person for this position the following qualifications should be kept in mind:

1. Administrative ability.
2. Knowledge of audio-visual methods.
3. Understanding of equipment and materials.
4. Comprehension of the total agency program.
5. Ability to do work with other persons.

Administrative and Supervisory Duties of the Director

1. *Preparation of a Budget* (considering both immediate and long term needs). The budget will include some or all of the following items:

a) Salaries for full- or part-time workers.
b) Rented and purchased materials.

c) Maintenance and purchase of equipment.
d) Equipment and materials for adapting rooms for projection.
e) Printed materials including books, pamphlets, periodicals, catalogs, printed forms, etc.
f) Equipment and materials for production of slides, slidefilms, posters, etc.

2. *Correlation of Audio-Visual Materials with Other Program Materials.* Correlation involves a thorough understanding of the nature of the programs being conducted by the various agency departments, the types of program materials being used, and how and where audio-visual materials may be used to supplement these other materials. The audio-visual committee can assist the director at this point by keeping him informed as to program developments within each agency department.

3. *Selection and Maintenance of Audio-Visual Equipment.* The purchasing and maintenance of equipment is a major duty of the director. He should be familiar with the equipment needs and the criteria for selection which are discussed in Chapter 3. Equipment must be kept in good running order at all times. This means regular testing of all equipment and keeping on hand a stock of replacement parts.

4. *Selection and Care of Audio-Visual Materials.* The director will need to exercise considerable judgment in the purchasing and renting of materials if he hopes to make the most of his available funds.

After the materials have been purchased, the director should classify, index, and file them in such a manner that they are readily accessible. Materials should be inspected each time they are used. If they are damaged and beyond repair they should be discarded and replaced.

5. *Schedule Equipment and Materials.* Materials and equipment should always be available to agency personnel when they are needed. One of the duties of the director is to develop a workable scheduling system for materials, equipment, projection rooms and, where projection service is provided, projectionists. Simple forms which will locate material and equipment while it is in use, and which make a provision for future scheduling, are desirable.

6. *Assist in the Production of Audio-Visual Materials.* Much excellent material can be produced for use in activity programs, in-service training meetings and public relations work. The director can, as one of his responsibilities, assist agency staff members and groups in the production of slides, slidefilms, motion pictures, posters, models, and many other aids.

7. *Plan and Execute an In-Service Training Program.* The effective and widespread use of audio-visual materials can be expected only when program personnel understand and appreciate the problems involved in utilization. In-service training provides a means for

initial training and for keeping the professional staff informed about newer materials and methods. To accomplish this training function, the director may use a series of agency staff meetings, demonstrations in group settings, workshops in connection with seasonal training conferences, and individual consultations. Suggestions concerning the content of an in-service training program are presented in the latter part of this chapter.

8. *Evaluation.* To ascertain the degree of progress made and to determine the emphasis of future program and budget, the director should evaluate his work periodically. The following areas should be considered:

a) Financial support—is it adequate?
b) Building facilities—are the rooms now used properly equipped?
c) Administration and supervision—are additional staff persons needed?
d) In-service training—should more time be provided for this aspect of the program?
e) Materials—is the selection process effective? Are the materials readily accessible?

The Communications Center

If effective utilization is to be achieved, provisions must be made which will enable agency personnel to acquire needed experiences in the use of both equipment and materials. The communications center combines the functions of a program workshop and a storage depot for equipment and materials. It enables the leader or instructor to consult at one location all of the

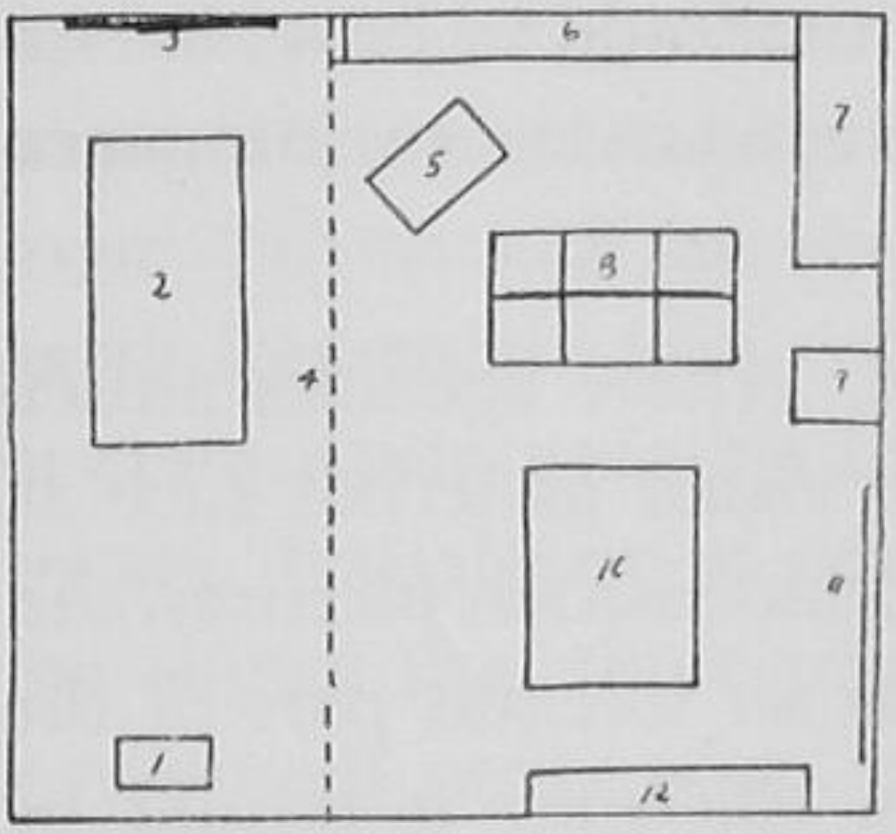
materials needed in the planning of any audio-visual program.

In laying out the communications center, sufficient space should be provided for a resource library, previewing room, storage of equipment and materials, inspection and repair of equipment and material, and possibly a photographic darkroom. In a small agency a single large room may be used to house this center. The accompanying diagram shows what a community center or Y.M.C.A. might develop for its work. Larger agencies may find that a series of rooms will be needed.

1. *The Resource Library*. Every agency should maintain a library of printed materials which may be used for training personnel in effective utilization or to locate specific materials for program use. The library would include books, pamphlets, and periodicals dealing with the use of audio-visual materials and equipment and the production of materials.[1] General finding lists such as the *Educational Film Guide*, catalogs of local film libraries, and other finding lists for slides, slidefilms, and recordings would also be included. An index to all materials and equipment owned by the agency should be available. If evaluations of materials are secured regularly, these should be filed in such a manner as to be readily accessible to the program planner.

[1] For titles consult Appendix A.

EQUIPMENT



1. Projection table
2. Conference table
3. Screen
4. Curtain
5. Desk
6. Equipment storage racks
7. Inspection and repair bench
8. Files for slides, recordings, pictures and films
9. Index file
10. Reading table
11. Bulletin board
12. Resource library

2. *Preview Room.* Where ample space is provided for the center, a separate room for previewing is desirable. This room should be large enough to accommodate at least 20 persons, and it should be equipped with projectors and record players which are set up for instant use. The preview room serves the following functions:

a. To preview materials for programs.
b. To provide a demonstration room for in-service training meetings.
c. To train staff members and others in the operation of equipment.

3. *Storage Facilities.* Storage facilities are needed to house the materials and equipment owned by the agency. Racks for films and equipment, files for pictures and slides, shelves for recordings and transcriptions should be provided.

4. *Inspection and Repair Facilities.* Space should be provided in the center for the inspection and repair of

materials and equipment. Film rewinds and splicers will be needed and storage space should be provided for lamps and other spare parts needed in the maintenance of equipment.

5. *Photographic Darkroom.* Where agencies anticipate a production program of visual materials such as slides, slidefilms, photographs, and motion pictures, the darkroom should be set up as an integral part of the center. To obtain maximum efficiency it should be divided into a darkroom where photographic operations are conducted, and an editing room where films may be edited, photographs mounted, and posters and other graphic visual materials may be made. Minimum equipment would include a good enlarger capable of handling negatives from 35-mm to 4 x 5 inches in size, a contact printer, sink with running water, a print dryer, developing trays, a large paper cutter, a storage cabinet for photographic materials, and other needed materials.

The In-Service Training Program

Few staff members in churches, Y.M.C.A.'s or social agencies have ever received training in utilization of these new tools. It is important, therefore, that they be given an opportunity to familiarize themselves with the appropriate use of both equipment and materials by an in-service training program which should have the following objectives.

To familiarize personnel with equipment and its operation. The mechanical aspect of utilization is an important consideration in any in-service training program. "Every staff member a projectionist" is suggested as an immediate goal. Where a staff person is able to operate equipment his use of materials is not limited by the availability of other projectionists. Experience has shown that those who fail to learn to operate the equipment never seem to learn its most effective use.

Training in the understanding and use of equipment may be provided on an individual or small group basis. Slide, slidefilm, and opaque projectors and recording and transcription playbacks may be used with ease after a single instructional period. Motion picture projectors, on the other hand, may be used effectively only after two or three short training periods and a guided solo session in a group situation.

To acquaint personnel with the characteristics and values of various types of audio-visual materials. Intelligent and maximum use of materials results when the users understand what each type of audio-visual material can do in their programs. The advantages and disadvantages of materials are discussed in Chapter 2.

To acquaint personnel with catalogs and guides which may be used to locate audio-visual materials.

To acquaint personnel with the principles of effective utilization. The intelligent and effective use of audio-visual materials is dependent upon an under-

standing of the principles involved in utilization as outlined in Chapter 4. To stimulate discussion in staff meetings the sound film *Using the Classroom Film* may be used to present the basic principles of utilization.

To acquaint personnel with the content of selected films and other audio-visual materials applicable to use in program work. The previewing of films and related materials for the purposes of selection and use should be encouraged.

To acquaint personnel with methods of producing audio-visual materials. Agency personnel should be encouraged to make slides, slidefilms, and motion pictures which can be used in their programs.

Demonstrations and Workshops

It may be that you have recently secured your audio-visual equipment and are not quite sure how to proceed. Others in your community are facing exactly the same problem and you can learn a good deal by working with them. In some communities the leaders of all organizations are getting together to plan film demonstrations and film utilization classes. Sometimes these are carried on entirely by local leaders, at other times an audio-visual specialist is brought in for a demonstration or series of meetings to which professional and voluntary workers in every organization are invited. Recently, for example, a church in a New Jersey town took the initiative in planning such a demonstration,

brought in such an expert, and played host to everyone interested in religious and informal education. In another city this was repeated only this time the Council of Social Agencies assumed leadership. In this way a corps of projectionists receive training and many leaders begin to discuss and try out the principles of utilization outlined in this manual. Sometimes the program in these demonstrations and workshops will be continued over an entire season; in other cases a permanent film council has developed out of such a beginning.

Film Councils

The growth of film councils in both Canada and the United States is one of the most arresting developments of recent years. A film council is composed of representatives of the schools, libraries, churches, clubs, social agencies, or any other community organization interested generally in informal education. Councils perform a variety of functions:

1. They provide a regular opportunity for practice and the sharing of experiences in film utilization.
2. Joint efforts are sometimes made to secure and share equipment.
3. "Training schools for projectionists" are provided which are sometimes followed by the development of a volunteer corps of projectionists.
4. Preview screenings of new films are held and a regular means of film evaluation and selection is developed.
5. Sometimes a local film library is established. (In Canada this is often housed in the firehall which is central and open 24 hours a day.)

Both voluntary and professional workers find in these councils a means of securing training in the use of audio-visual aids and in keeping up with all the developments in the field. If you are interested in such a move for your community you can receive some help by writing to The Film Council of America, 6 West Ontario Street, Chicago, Illinois.

Biblical Stories Can Best be Interpreted by Films. (Photo courtesy Cathedral Films)

Chapter 6

AUDIO-VISUAL AIDS IN RELIGIOUS PROGRAMS

FROM WHAT has already been said about the effectiveness of audio-visual communications both to motivate and to instruct, it is quite apparent that religious programs of various kinds can benefit from their use. This chapter will deal with ways in which these aids can be used in worship services, for religious instruction, for ethical and social education, and in missionary and world service programs.

WORSHIP

In recent years some churches have used a combination of audio-visual materials in regular services of worship. They have found that Bible-story films, hymnalogues, colored slidefilms and slides, and musical transcriptions are all very effective. The dramatic quality of both the visual material and the music fits in equally well with a service designed for meditation or one of inspiration. Used in services with adults they have been much appreciated and especially is this the case in wor-

ship programs for teen-age clubs such as the Hi-Y or young peoples' societies.

Of course special care must be taken to insure that the atmosphere of worship be not disturbed by the mechanics associated with these materials. In worship services special precautions should be taken to have satisfactory operation of the equipment.

1. Subdue the operation noise of the projector as much as possible.
2. Move the screen into position at the moment projection is to begin.
3. If a permanent wall screen is used, keep it covered with pull drapes until time for projection.
4. Use a square screen for slide and opaque projection.
5. Use subdued room lighting.
6. Check such details as: arrangement of chairs, focus, lights for pianist and narrator, position of piano so that pianist can see screen, order of slides, method of timing changing of slides, familiarity of reader with script. A rehearsal is the only sure way.

Remember that the mere use of audio-visual materials does not ensure a satisfactory worship service. They are merely tools and a successful program will result only when these materials are carefully integrated into the larger program. Prayers, readings, hymns, stories, and pictures must all be keyed to the theme of the service.

Using Pictures in Worship

Reproductions of great religious paintings are widely used in worship services. They are especially useful in

work with children. An effectively presented picture stimulates the imagination and at the same time it serves as a means for focusing group attention on the theme of the service.

A single picture is often more effective than several. To be useful it should be large enough to be seen by the entire group. To give the desired effect, it should be well illuminated and the room lights should be subdued.

Using Slides in Worship

The larger 3¼ x 4-inch slide has long been used in religious programs, but unfortunately it lacked color which is so important for worship presentation. Some colored slides were available but their cost was usually a limiting factor in their use. Today most of the great paintings and many nature photographs are available on inexpensive 2 x 2-inch slides in brilliant color.

Slides have several advantages. They produce a picture of sufficient size to be seen by large audiences; they can be presented as an individual theme picture for a service or in series; they lend themselves well to combination use with music and narration.

The Sallman series, which include "Head of Christ," "Christ at the Door," and "Christ in Gethsemane," has been used by many churches. Other slides of equal value include Dürer's "Praying Hands," Clement's "Rich Young Ruler," Zimmerman's "Christ and the

Fishermen," and Rubens' "Christ on the Cross." Many series are now available. Church-Craft Pictures, formerly Cathedral Pictures, has produced about fifty slide series which interpret popular Bible stories including: "The Samaritan Woman," "Jesus and the Small Child," "The Rich Young Ruler," and "Jesus Blesses Little Children." These are all photographs of acted scenes and not reproductions of paintings or illustrations.

Colored scenic and nature study slides are often used in services to evoke meditation around such themes as "This is My Father's World," or "God, the Creator." Many beautiful slides can be secured from commercial sources. Moreover, most organizations have at least one avid miniature camera fan who specializes in color work. He probably has or can produce some slides especially appropriate for use in worship and inspiration services.

The Religious Film Association, local denominational bookstores, and the Society for Visual Education are excellent sources for slides.[1] Scripts for worship services may be secured from the International Council of Religious Education. Descriptions of great religious paintings, suggested worship services, and utilization ideas may be secured by consulting the following books: *Worship Programs in the Fine Arts for Young People*,[2]

[1] Additional sources are listed in Appendix B.
[2] Alice A. Bays, Abingdon-Cokesbury, New York, 1940.

Jesus and His Teachings,[3] *The Altar Hour,*[4] *Christ and the Fine Arts,*[5] *The World's Great Madonnas*[6] and *Art and Character.*[7]

Using Films in Worship

Far too few appropriate motion pictures for worship purposes are yet available. A few good films have been produced specifically for use in worship and some others can be adapted to programs of this nature. However, many more films will be forthcoming. Already a number of producers have announced rather extensive production plans.

Hills and the Sea has been widely used in worship programs. It is a beautiful color film of Martha's Vineyard, available in either sound or silent versions. The sound film has orchestral accompaniment but lacks commentary or subtitles. Young peoples' groups have used it for worship by reading passages from the Bible which are keyed to the scenes presented in the film, by reading appropriate poetic selections, or by cutting off the sound track and substituting choral or organ music. Worship scripts for this film are available from the International Council of Religious Education.

This Is My Father's World, a film characterized by

[3] Albert E. Bailey, Christian Education Press, Philadelphia, 1942.
[4] Philip H. Lotz, Bethany Press, St. Louis, Missouri, 1941.
[5] Cynthia P. Maus, Harper and Brothers, New York, 1938.
[6] Cynthia P. Maus, Harper and Brothers, New York, 1947.
[7] Albert E. Bailey, Abingdon-Cokesbury, New York, 1938.

similar treatment, is more limited in application. It has psalm selections which appear as running titles. Another film is *Yosemite National Park*. Its exquisite color scenes surpass even those appearing in *Hills and the Sea*. This film could easily be adapted for purposes of worship by projecting it as a silent picture, supplementing it with appropriate readings, organ selections, or recorded music. Recently a leader of an adult Bible class screened an instructional film, *Exploring the Universe*, which shows the relationship of our solar system to the total universe, using it as an illustration of the insignificance of man and greatness of God.

Whenever Bible stories comprise the theme of a worship service, the film is an ideal medium for presentation. Cathedral Films have produced a long list which includes *A Certain Nobleman, Man of Faith, No Greater Power,* and *Woman to Remember. Faith Triumphant,* one of the films in the *Life of St. Paul* series, is recommended as a source of inspiration in any service.

Religious Instruction

As distinguished from worship and meditation there is an important place in religious education for audio-visual aids. When properly utilized they can present the Bible as a living document. They enable the class members to *see* and to *understand*. Their concreteness contributes much to oral interpretations of Biblical stories, events, and messages. Maps and globes which

show the geographical setting of Palestine in relation to the Old and New Worlds have long been used as aids to the study of the Bible. But these tools should be used sparingly with children, because they are in themselves abstractions.

Models and objects which can be handled by the group are excellent instructional aids. Often appropriate exhibits may be secured on loan from museums or neighboring churches in the community. Dioramas depicting the life and customs of Biblical times, and miniature replicas of agricultural tools and household utensils used by the Hebrews may be constructed by class members. Class projects of this type are both interesting and educational. Large mounted pictures which can be studied by the whole class, and small prints which can be passed around the class can also be used effectively as aids to the study of great Biblical characters.

Slides and Slidefilms

Slides can be used singly or in series to introduce units of study, to present background materials, and to review materials already covered. The Church-Craft Pictures have produced a series of kodachrome slides with this purpose in mind. They include among others the following subjects: *The Easter Story, Christmas Blessings,* and *The Institution of the Lord's Supper.* Another set of slides worthy of consideration is Roland

H. Bainton's *Panorama of the Christian Church*. The series (150 slides and script) is arranged in four parts: "The Early Church," "The Medieval Church," "The Period of the Reformation," and "The American and the Younger Churches." The slides have been used in series to teach church history, or single slides may be selected to help in the study of Biblical characters.

An Old and a New Testament series, each comprised of 12 slidefilms, can be used to present whole units of Bible study, or the single slidefilms may be used to supplement presentations in a unit of instruction.

Motion Pictures

As has been noted, Biblical stories can best be interpreted through films. The following titles suggest the nature and scope of film coverage in this area:

The First Easter (3 reels; sound) is an inspiring portrayal of the Easter story as recorded in the gospels.

Blind Beggar of Jerusalem (2 reels; sound) tells the story of Jesus' healing of a blind beggar.

Journey Into Faith (3 reels; sound) relates the gospel story of the two men who met the risen Christ.

The Story of the Prodigal Son (2 reels; sound) visualizes the parable as Jesus told it.

A Voice in the Wilderness (3 reels; sound) relates the life story of John the Baptist.

Where Biblical history is taught, the film *The Holy Land from Abraham to Allenby* (7 reels; sound), although long, may be used to advantage. It may be secured and booked in four units for study purposes. *The*

Kindled Flame (3½ reels; sound) shows the life of the early Christians under Roman oppression.

The Bible itself is the theme of several films: *Book for the World of Tomorrow, Book of Books,* and *The Life of William Tindale.* The latter film tells the story of the translation of the Bible into English.

Missionary and World Service Education

For many years to come programs of aid to other countries will be needed. Peoples of war-torn countries are struggling valiantly against almost insurmountable problems. Both government and private organizations must share in this assistance. For some this will be a new kind of activity; for others it is just an expansion of missionary and world service work already under way.

Missionary and world service programs can effectively use speakers, posters, exhibits, printed literature, radio, slides, slidefilms, and motion pictures. All of these tools have a very definite function and they will be found most effective when co-ordinated into a total program. Because the appeal for funds is often presented on an emotional level, dramatic methods of interpretation will be found most useful. Audio-visual tools should be used whenever possible. They get attention and at the same time provide the motivation needed to secure favorable action.

Audio-visual communications are not new to this

that of an entire church worshiping by radio. This western church meets as a congregation in the morning. But in the evening they are divided into many small groups. From five to fifteen meet in the home of one member to worship together during the service which the minister broadcasts from the radio studio with appropriate music. So valued is this small group worship service that the church members have decided to continue all through the year what had been just an experiment for the summer time.

The quality of religious broadcasts, both by the churches themselves, and sponsored broadcasts like "The Greatest Story Ever Told" make these programs much more suitable for church school use. Many of them are now being transcribed.

Nature Study Field Trip. (Photo courtesy National Council of Y.M.C.A.'s)

Chapter 7

AUDIO-VISUAL AIDS IN THE SUMMER CAMP

"WHAT!" objected the camp director, "bring the kids indoors to see a movie? Not in this camp. We are trying to get them away from all that."

Of course he was right in part. Camp is no place for routine city amusements. (Although rainy days are sometimes saved by having some such resource in reserve.) But this camp director missed the point. He failed to realize that audio-visual materials are not just canned entertainment but that with imagination they can be used to enrich the effectiveness of the whole camp program. Just how is this done?

LEADERSHIP TRAINING

One of the most important problems facing a camp director is that of training a staff of counselors and activity leaders. This task is made more difficult because the camp program is telescoped into a brief one-to-three-month period, and because staff members change from year to year. To do a good job of leadership training, the camp director will probably utilize both pre-

camp training and a continuing in-service training program.

The precamp program usually begins in the late winter or early spring after the recruiting task has been completed. Weekly sessions in the city, lasting over a period of several weeks, is a method used by some directors. Others depend upon a concentrated four- or five-day conference just preceding the opening of camp to do the major training job. The supplementary in-service training program generally continues throughout the camping period.

In camp leadership training the lecture, demonstration and discussion methods are usually employed. Because there is a small but growing body of materials useful for such training, the sessions are made more interesting and the learning becomes more concrete by using the film, radio, and other resources.

Some excellent films are already available which may be used for illustration of principles and methods of education, for the development of desirable attitudes, and for the teaching of skills. For example, *Youth in Camps,* a two-reel film, which shows the decentralized organization and informal program of the Life Camps can be helpful in stimulating discussion around such questions as "What is the purpose of a summer camp?" and "How can it best be achieved?" There are a number of films like *Children of the City* or *Your Child Is a Genius* which present constructive considerations of

emotional development and personality problems. These should help create some understanding of individual and group behavior and lead to a helpful discussion of counselor relationship with campers. Or a film like *Patrol Method,* which shows how group work methods may be applied to program planning in Boy Scout patrols should prove helpful to counselors in understanding the democratic approach to program planning.

In the training session the prospective counselors should be taught how to use films so that they may also make use of the equipment in their work. The motion picture *Using the Classroom Film* may be effectively used to introduce the topic of utilization as it illustrates principles of successful use which can be applied to materials other than films. Further consultation of Chapter 4 of this manual will suggest other aspects of utilization. As a follow-up of the training session program supervisors may wish to consider with each activity leader the available films and other tools which might be used in camp programs, both for motivation and for instructional purposes.

Most camps consciously try to build constructive attitudes toward citizenship and the rights and responsibilities of individuals. Films can prove helpful here. Films like *The House I Live In,* slidefilms and transcriptions which deal with topics such as intercultural conflicts or religion may be used during the training

sessions to point up discussion concerned with the development of wholesome attitudes in campers. These can be later used in the camp program.

There are already a good many materials which have been produced to aid in skills learning. Health and safety, arts and crafts, sports, swimming and camp lore are a few of the areas which may be approached through the film medium.

It is interesting to note that the Camping School of the University of Toronto has scheduled a film session every morning in its training program for camp counselors and directors. New films, adapted to this purpose, are being produced.

Orientation of Campers

Camp directors commonly utilize a short orientation period to acquaint new campers with the scope and nature of the camping activities, with problems of personal conduct, and with the safety regulations of the camp. This orientation period is usually held in the city just prior to departure for camp, or during the first day of the camp period. Appropriately selected audio-visual materials will aid the director in getting his desired messages across, and in making them "stick" in the minds of the campers.

Photographic camp records prepared by the campers of previous periods may be found helpful in giving the new participants a setting for program participation

and an appreciation of some of the more significant program opportunities. Colored slides and silent motion pictures, if carefully prepared with this orientation period in mind, may also be used to give campers some insight into the role of cooperative living as practiced in the camp.

Education for safety is stressed in all camp programs. As incentive films and for instructional purposes, both *Learn to Swim* and *Elementary Tactics of Life Saving* are suggestive of the type of films which might be used. If these films are used in the camp setting, they might well be followed with demonstrations by the waterfront staff and with questions and discussion by the campers.

Other aspects of camp safety may also be interpreted through the use of films. *Stop Forest Fires* may be used to point up the dangers of fire building; *Axemanship* is useful in teaching axe safety; *Help Wanted* is a very helpful resource for use in teaching first aid to beginners.

Program Activities

Life and activities at camp should be indigenous to the out-of-doors environment. Therefore, films and other audio-visual materials must be selected to do a particular job in relation to the activities of camp life and not just as rainy-day fillers-in. Last summer the film *Portage* (showing Indians building and paddling

a birch bark canoe) was the beginning of a project in Indian lore, Indian crafts, and canoe tripping which went on all summer in a church boys camp.

Health and Safety

In addition to films and filmslides which have already been mentioned, humorous and colorful posters have been found useful in helping develop habits of healthful living, camp sanitation, life saving, and safety education. When judiciously used, they will effectively supplement verbal instructions and demonstration. New gadgets play their part too.

The walkie-talkie, a two-way radio communication, is rapidly being adapted to many civilian uses. In camping it can become a valuable adjunct to the safety program. Carried on over-night hikes or extended canoe trips it provides campers with a means for maintaining contact with the camp, and, in the eventuality of a serious mishap, camp personnel can radio instructions for first-aid treatment or aid can be rushed to the scene of the accident.

Sports

Throughout the history of summer camping the development of physical fitness through sports activities has been recognized as an important part of the camp program. Again films and slidefilms may be used for both incentive and instructional purposes. The follow-

ing list suggests a few films which may be utilized to enhance the effectiveness of the sports program.

SWIMMING—*Swim and Live, Swimming for Beginners, Advanced Swimming,* and *Diving Fundamentals.*
VOLLEYBALL—*Play Volleyball.*
BASEBALL—*Play Ball, Son, Swing King,* and *Play Softball* (a slidefilm).
ARCHERY—*Follow the Arrow* and *Archery for Beginners.*
BADMINTON—*Good Badminton.*
TENNIS—*Fundamentals of Tennis.*

A further discussion of this topic is found in the chapter on Health and Physical Education.

Entertainment

Film showings provided for the purposes of entertainment and camper relaxation have a legitimate place in any summer camp program. In many camps, travelogues, animated cartoons, old-time movies, and interesting educational films are scheduled as once-a-week evening showings. The occasional use of feature length films in "movie-nite" programs is justified, but a steady diet of this type of film should be discouraged.

A well selected library of recordings should be featured in every camp. Recordings may be used in music appreciation periods as such or in rainy-day programs as fill-in items. In those camps equipped with a public-address system musical recordings are effectively used to provide evening musicals just prior to taps.

The portable radio should not be overlooked. If used with discrimination it fills a real need. The staff club

room should be equipped with a radio, and portables may be used on over-night hikes and with evening canoe parties. Take your group out on the water, link canoes and drift, and listen to a symphony or "Waltz Time." Your group will never forget the experience.

Nature Lore

Audio-visual materials and methods are ideally suited to nature study activities, and they have a wider potential application in this area than perhaps any other type of camp activity. The field trip is perhaps the most effective method of instruction and provides an excellent means for the study of birds, animals, botany, and even geology. And when it is supplemented by audio-visual materials, nature study will appeal to most campers. Films may be shown to develop camper interest and at the same time instruct campers in the ways of nature. A few of the better subjects are: *Monarch Butterfly, Woody Grows Up, Snapping Turtle, The Frog, Realm of the Wild, City of Wax, A Fish is Born,* and *Song Birds of the North Woods.* Hundreds of 2 x 2-inch color slides are available which may be used to identify flowers, plants, birds, and animals.

Another supplemental tool is the camp museum. In instances where it is developed as a camp project under the guidance of a skilled nature study leader, its educational possibilities are unlimited. It can be made one of the high points in the summer experience of campers.

In the preparation of an insect exhibit, for example, campers become familiar with insect life, and learn how to mount and display specimens. Flowers and plants may be transplanted and cultivated by campers; the skills of taxidermy may be mastered; and the zoo with its turtles, snakes and small animals provides campers with many insights into animal life. Campers enter into the preparation of exhibits, wall newspapers and graphic displays of nature with considerable zest.

Arts and Crafts Activities

The alert arts and crafts director will use audio-visual materials and methods to supplement his group demonstrations and individual instruction. Operational exhibits and mock-ups which show the steps in a craft process are widely used in schools. Prepared by the camp crafts director, the exhibits will serve to stimulate interest in craft activities and at the same time demonstrate working procedures. The process of making a block print, for example, can be illustrated by mounting on a display board the tools and materials needed together with separate blocks indicating the stages in the process. Pottery making, basket weaving, leathercraft, mask making, and other craft projects can be illustrated in like manner.

Posters prepared by the director or by the campers themselves and exhibits of finished craft projects often provide campers with the incentive needed to secure

their participation in the arts and crafts program.

Motion pictures, both silent and sound, may be used to supplement demonstration. Those now available from film libraries include the subjects of puppetry, woodcraft, pottery, metalcraft, plastics, drawing, engraving, finger painting, block printing, and photography.

Ceremonials and Camp Shows

In planning ceremonials and camp shows it should be remembered that recordings and public address systems will frequently enhance the quality and effectiveness of dramatic production. Musical recordings can be used to create a desired emotional setting for dramatic activities, and sound effects recordings are frequently needed to lend realism to a production.

Where camp shows or ceremonials are presented to large groups out of doors, a good portable public address system may be essential for voice amplification.

Social Problems Education

For young adults and the older adolescent the summer camp or the work camp provides an especially desirable situation for the exploration of social problems. The film is perhaps the best single tool in social education programs. For example, *The World We*

Want to Live In, The Color of a Man, We Are All Brothers, Boundary Lines, Man–One Family, may be used in a discussion concerned with interracial and intercultural understanding. *You and Your Family, You and Your Friends,* and *Junior Prom,* might be integrated into discussions of personal problems. A sizable store of films is available on atomic energy and its control, economic policies, housing, geography, the various industries, and the life and culture of other lands and peoples.

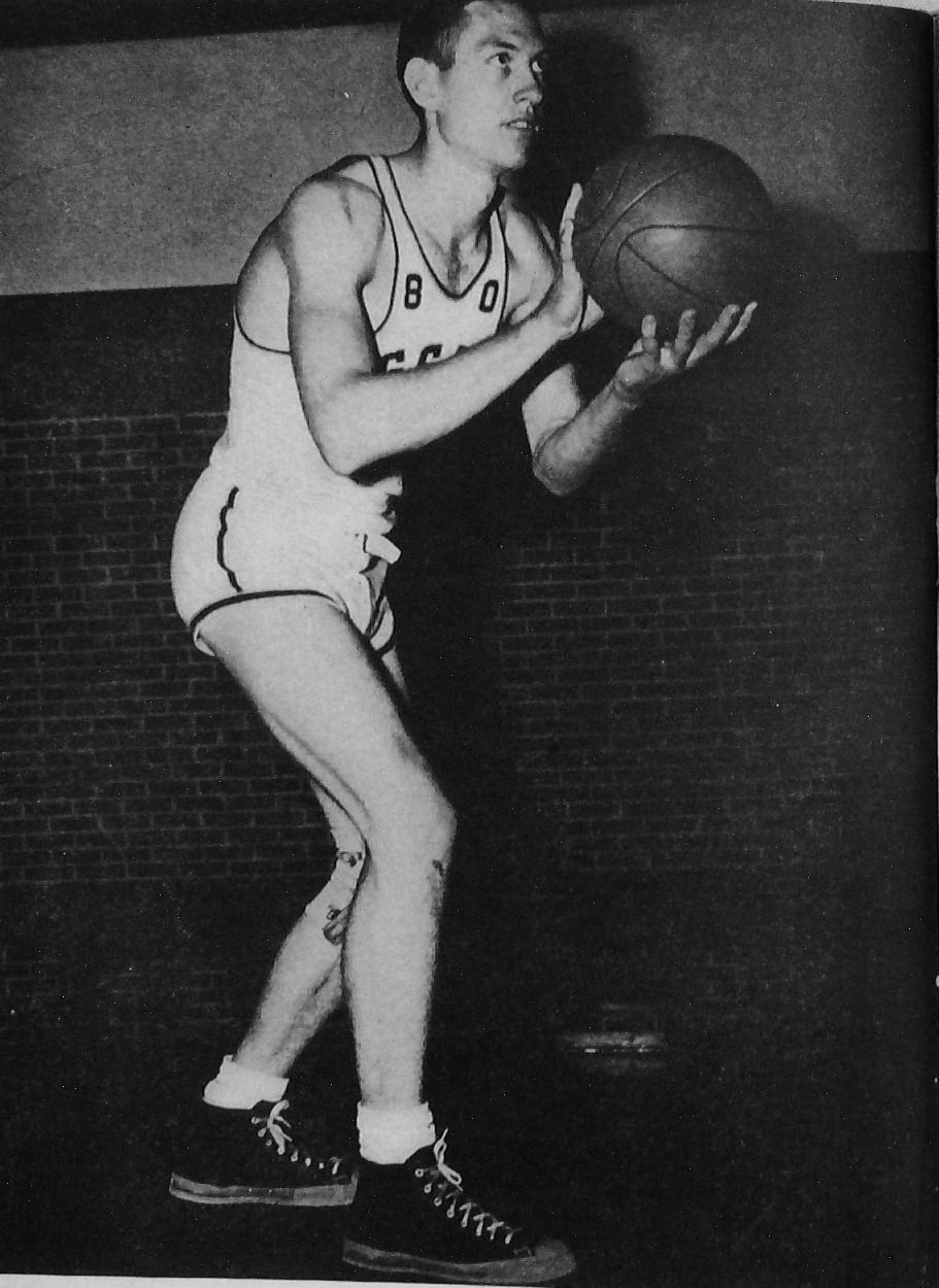
Inspiration and Worship

Audio-visual methods and materials have a wide application in inspiration and worship activities. In addition to motion pictures, or religious themes, colored 2 x 2-inch slides which reproduce some of the great religious paintings are available in wide variety. Colored photographs taken by campers of beautiful scenes of nature may be used to focus interest and develop aesthetic appreciations.

Some camps have used motion pictures such as *Hills and the Sea* and *This is My Father's World* for an occasional inspiration service. Most of the Cathedral Films, such as *A Certain Nobleman, Prodigal Son,* or *Man of Faith* and the British-produced *Life of St. Paul* series fit well into any evening worship program. Further suggestions may be found in the chapter on Religious Education.

Camp Promotion

The contributions that photography can make to camp promotion should not be underestimated. The camp director by exercising a bit of foresight can, during the regular camping season, secure excellent photographs, color slides, slidefilm, and motion pictures which may be used for later promotion work. Wherever the camp director has the opportunity of talking to groups of parents he will find the slidefilm a most satisfactory aid. It is cheap to produce using kodachrome film and a 35-mm camera, it gives clear colorful pictures and the medium allows for questions and comment as the pictures are being shown. Slides and motion pictures have also been used effectively.



In Skill Training Motion Pictures Have Their Greatest Usefulness.
(Photo courtesy of Association Films and Associated Press)

Chapter 8

AUDIO-VISUAL AIDS IN HEALTH AND PHYSICAL EDUCATION

THE SPORTS coach was one of the first teachers to make extensive use of audio-visual aids. At almost any college football game more cameras are grinding than on a Hollywood lot! Much of this footage is for training purposes. Jeff Cravath, coach at the University of Southern California, uses a compact, portable, automatic processing machine in each game. Developed for the armed forces during the war, it has since been used on race tracks and for many industrial purposes. With this aid Cravath can take his team at the half time intermission and show them pictures of the first two quarters. Strengths and errors of his own squad and their opponents are studied and analyzed. Thus, films are put to work quickly to produce point-scoring plays.

Such use is not only true of football. One of the earliest training devices used with automobile drivers was to project a series of pictures of the actual situations confronted on a highway or in traffic while the subject responded by manipulating the appropriate

control at each stage. Underwater photography played an important part in training the Japanese swimming team for their phenomenal successes in the 1932 Olympics. Some of the best tennis coaches have long considered films an important aid to their work. Of course, the most outstanding use of films and related aids in teaching physical skills occurred during the war. Millions of men in every army in the world got much of their training in this way. They learned everything from handling a micrometer to maneuvering a B-29.

It is only when we examine rather closely some of objectives of health and physical education that we begin to realize how well suited are these media for this particular field. Take health education. In general terms the purpose is to teach a body of subject matter *information,* to produce good health *habits,* and to develop sound *attitudes.* As has been noted earlier, audio-visual communications are effective for all such purposes. When recreation and physical education are considered, further purposes are uncovered—fun, aesthetic appreciation, good sportsmanship, safety and skill learning. Again the film and its allies have much to contribute.

Little need be said here about aesthetic and fun-making values. But it is worth noting that portable radios, record players, and public address equipment now make it possible to have music as a background or as a component part of every activity where rhythm

is a factor. Breathing and stroking in swimming can be more easily learned with the aid of music just as this is true of the dance and calisthenics. And the total experience is much more pleasurable. The New Rochelle Y.M.C.A. has an excellent sound system installed in its swimming pool. Similar good effects when music is used have recently been discovered in connection with canoe paddling and marathon running.

Good Sportsmanship

Everyone in the field of physical education is interested in the ways and means of developing qualitites of good sportsmanship. Great claims are sometimes made for sport as a producer of good character. Yet surprisingly little attention has yet been given to the use of the dramatic qualities in films either to raise ethical questions for discussion or to motivate. This is a subject for a whole series of productions for school and agency use. A lead has already been given in the *Art of Living* series produced by Association Films. And a new film to develop the skills of being a co-operative spectator at high school basketball games points the way for additional attitude forming instruction through visual aids.

Nor have educators been too inventive, yet, in introducing the increased safety margin that is possible by adapting certain modern equipment. Public address systems are more and more common in gymnasia, and

some are found in swimming pools. These have given the instructor a much greater measure of control as well as a valued teaching aid. But it is surprising how few play fields, beaches, or boating areas are so equipped. Certainly the supervisors of swimming and boating should have such a facility wherever possible. It is interesting to note that a Maine ski patrol has been using an adaptation of *walkie-talkie* equipment for its work; this might also be used for canoe trips and boating events, both for safety and instruction.

Learning Skills

But it is in skill learning that audio-visual aids have their greatest usefulness. Much of such learning comes from observing in detail and copying the skill and good form of the expert. No longer is the athlete in a small community limited to the observations he may make of his colleagues in the local area. He can learn from the best in the land. Or take the matter of difficult, complex movement. This is usually taught by words, by demonstration, or by putting the student through the correct motions when protected by a safety belt. All of these have limitations. For example most coaches, even the best, are not capable of demonstration. And even if they were, the student may easily miss many a significant movement. Robert Hubbard has made this very clear in an article entitled "Coaching an Olympic Team with Movies" in the *American Cinematograph*.

"Even if you are an Olympic champion and can do all the dives to perfection, it takes more than pantomime or demonstration to put over the fact that in one dive, just as you are three-quarters through your backward somersault, you throw your head forward, while in another dive which looks almost exactly like the first, you throw your head backward."

Sometimes, as in the case of a bowling delivery, the skill is such that the demonstration can be slowed down. But almost inevitably the rhythm is lost and a distortion of movement occurs. The film can, if properly laid out, analyze component parts of a skill by slowing down the action or by stopping action at any position within the continuous activity. Distortion of movement does not result, inasmuch as the analysis is the result of using certain camera and film printing techniques, rather than altering the rhythm of the original demonstration. *Play Ball, Son* of Young America Films is a good example of this. A step by step analysis is shown through slow motion, freeze shots, and diagrams.

Another important point is the matter of relationships. Many young athletes find difficulty in seeing how their individual role and responsibility fits into the play or the plan for the whole team. Here it is that diagrammatic work or overhead shots of the entire play are so useful. Only when the student gets this overview can he master a specific skill such as the pivot or screen in basketball.

Programming and Utilization

The suggestions already made in the chapter on utilization are all applicable to this field. Because the objectives in physical education are so very specific, care must be taken in selecting the medium and material which will best do the specific task. Selection can only be made after scanning and studying all the aids that are available.

In health education the problems and the methods to be followed are much like those in any class situation. However, every opportunity should be taken of providing such material in natural, on-going groups like a men's club where the instruction will come naturally and can be related to other group activities, rather than fabricating special groups and putting on a special health activity.

Follow-up

In physical education there are usually much greater opportunities for practice and follow-up than in any other educational activity. For example, whenever a skill is demonstrated there should be enough question-and-answer follow-up or discussion to be certain that the students are conscious of the salient points. Next, following immediately, an opportunity for practice should be provided. After carefully observing the backswing, the golfer should immediately be given

a club to try it out so he may get the "feel" of what he has just seen. This means, of course, that play-field, gymnasium, and swimming pool ought to have electrical outlets and facilities for recording and projection equipment, or that this will be available in adjacent rooms. If this is to be done in most physical departments, some attention will have to be paid to acoustics and means of darkening, at least partially, the room. One football coach is already using a translucent screen so that he can project his film right on the field under day-light conditions.

Repetition

Another important factor in utilization is repetition. Sometimes it will take many screenings before the skill will be learned. The track coach at Dartmouth University, who has been using films for many years, has commented upon this fact. "The boys do not readily grasp our verbal instructions, but when they see the pictures a few times they begin to get what we continually try to tell them. We often have to run these pictures over several times, until the boys grasp the technique. I might add that sometimes it takes many showings before the fellows get the right methods imprinted in their minds. One or two showings is not much help."

Integration

The most effective use is made when all the aids are

used together in an integrated pattern. Music always has a place if rhythm and relaxation are essential. Public address gives a measure of control over the whole situation without stopping the action. Blackboards, charts, diagrams, maps, and models bring specific content. Frequently the film and slidefilm can be used together. Perhaps you are coaching a softball squad. Moving pictures will be most suitable to depict the over-all strategy, the process, the position of the players and, for example, how each contributes to a double play. It shows the movement and flow of a game. But for emphasis upon essential specific points, where the players will need to raise questions and discuss the matter, a slidefilm should be employed. More and more films and slidefilms are being made together and are being used to cover the same subject matter, each contributing what it does best to the total learning process.

Projected Materials

Films

The supply of film material is much greater than that of any of the other aids. During the war the armed services produced some good sports instruction films. *Tumbling for Physical Fitness* and *Swim and Live* are typical of those already released for civilian use. As copyright restrictions are eased, others will become available. *Play Volleyball, West Point Championship*

Football, and *Championship Basketball,* all produced by Association Films, have had a very wide use. The teaching films of Encyclopaedia Britannica, Coronet, and Young America are all widely distributed. A fairly recent film, *Playtown USA,* has already been used in many communities, not to teach skills but to help community leaders understand what the constructive values of a comprehensive program of recreation in any community are and how they can be achieved. Many a community council has found that this film provides a springboard for action in securing needed services and staff.

There is a vast store of health films, or rather films which have some bearing on problems of health. Not all of these are good teaching aids. Many are highly specialized, much too detailed or far too dull. But it is in this field especially that Disney has demonstrated the value of the color cartoon, both in imparting information and in moulding attitudes. Films like *Water—Friend or Enemy* made for Latin American use, or *Defense Against Invasion* bring new understanding of disease control to groups even where the standard of education is low. Another film, *The Story of Menstruation* shows what is possible in the treatment of an important subject in a frank, factual, scientifically accurate and yet charming way. This last film has encouraged some doctors and health educators to believe that some of the most difficult aspects of health education may be han-

dled with ease and considerable effectiveness by teachers with only a minimum of medical training.

New Films Needed

As in so many other fields, it is quite evident that there is already more good film material than health and physical educators are using. But there are many subject areas where no or few good films exist. For example, films are needed for an activity like square dancing, for a sport like fencing, and for an entire field like mental health. Mention was made earlier of the need for films to be used for developing good sportsmanship. These, and many more, will only be produced as sports leaders take some initiative in pressing for them.

Slidefilms

There are a great many more slidefilm titles in the health field than for physical education. However, new slidefilms are now coming out quite regularly, many of them prepared to be used in conjunction with a film. One such is *Play Softball.* Two other recent titles show the spread of subjects covered, *Techniques in Administering and Scoring Physical Fitness Tests* and *Correction Posture Exercises.* Recently this kind of film has been used extensively in medical clinics and social agencies. Some chest x-rays are now printed on microfilm, instead of on expensive film plates, and are examined by the doctor after being projected on a screen.

An equivalent use is putting athletic record data on microfilm and projecting it on a screen for group discussion.

Slides

Leaders in both health and physical education have long been using slides to present diagrammatic material, single photographs and textual material, like songs and biological specimens.

Audio Aids

It is perhaps not necessary to make a further reference to the importance of a sound system in physical education. It is almost an essential for any large play area. Teachers have long known the value of music for drill, exercise, tumbling, and dancing. Not many of them have applied the same idea and used music for swimming or long hikes but it also has a place there. The adaptation of new portable wire recorders and playbacks will undoubtedly increase these possibilities considerably.

Radio has long been an important instrument in physical education. In Australia many adults and children in outlying areas depend upon the radio as a lead to recreational programs and exercise. The largest physical education program in Canada is the "Sports College of the Air." The extension of television will greatly increase the effectiveness of such an approach.

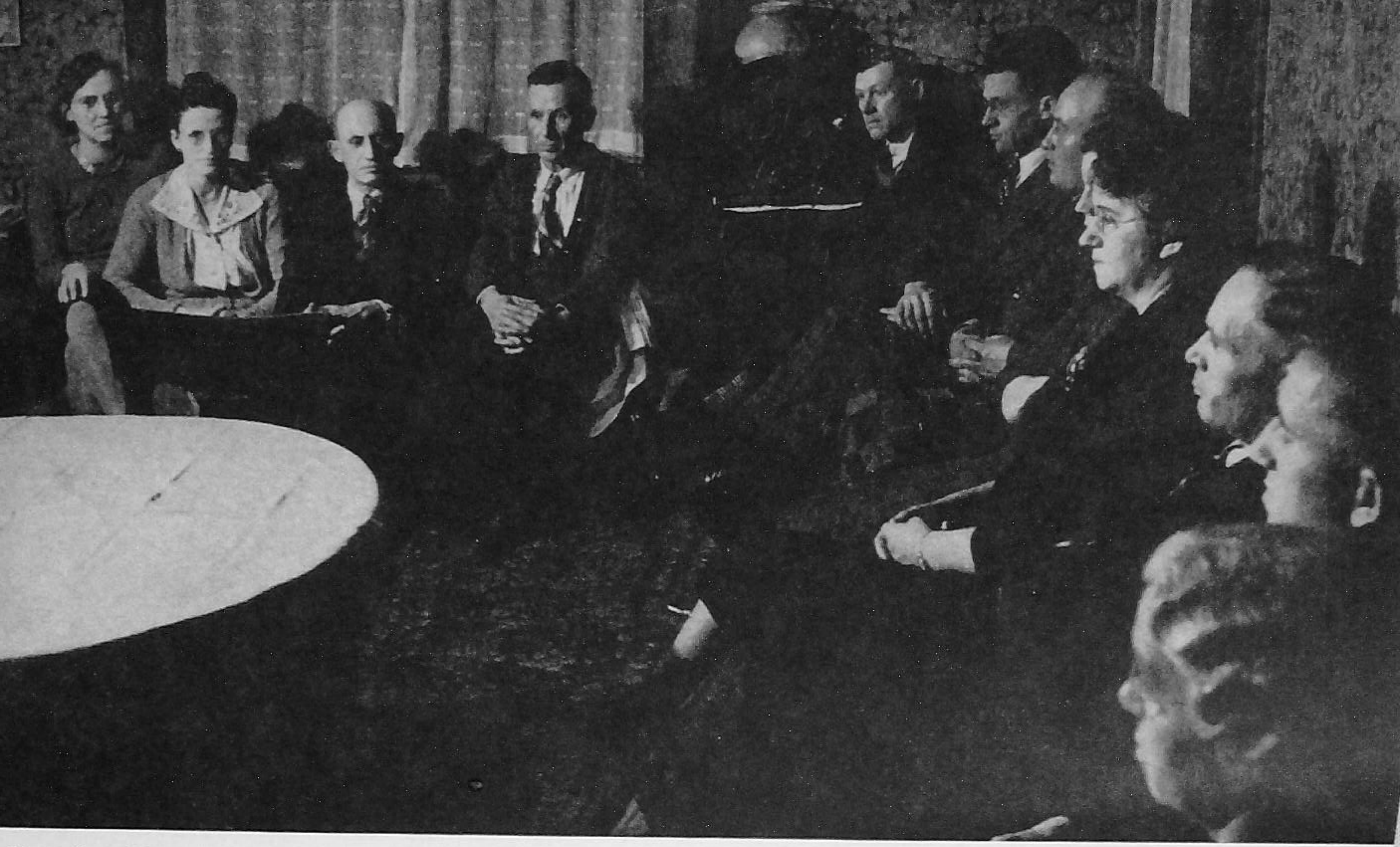
Public health is receiving a greater amount of attention on national radio programs. Some excellent transcriptions are now available for groups and agencies, produced under public health auspices.

Graphics and Models

Perhaps in no other field has such frequent use been made of diagrams, posters, charts, and maps. Models can also be used extensively, both full size and scale miniatures. Experiences in the rehabilitation work of the army hospitals have pointed out the need for simulating actual conditions when a model is used. They have found that amputees learn best how to handle their new limbs when they practice going through actual subway turnstiles, or crossing streets while an actual traffic signal is changing. Models have an important place in rehabilitation, perhaps an increasingly significant use in all health education.

Production

Many of the sports leaders who have had the best success with audio-visual communications are those who have produced some of their own material. Perhaps only a few teachers will produce their own motion pictures but many more will want to develop charts, posters, slidefilms, or construct teaching models. Rather complete information about production of these is given in Chapter 12.



Canadians Tune in on the National Farm Radio Forum. (Photo courtesy of Canadian Association for Adult Education)

Chapter 9

AUDIO-VISUAL AIDS IN PUBLIC AFFAIRS EDUCATION

EVEN BEFORE the development of the atomic bomb some of our leaders were warning that there must be effective world-wide education in public affairs—or chaos. This dire prediction has even greater meaning today. Most organizations are now concerned with how they can most satisfactorily carry out responsibilities of helping their members understand and participate in public affairs. For such an objective audio-visual aids have much to offer.

MOTION PICTURES AND SLIDEFILMS

It may be well to summarize some of the advantages of using films and slidefilms in group programs.

1. *Films have group appeal.* They develop and maintain interest, and they will attract youth and adults who might not otherwise participate in public affairs programs.

2. *Films can present information and ideas to nonreaders.* Large numbers of our adult population are poor readers, while an even larger group is too preoccupied with other activities to read significant books and pamphlets. These same adults are more easily reached with the film.

3. *Films can economize program time.* Because they pre-

sent ideas in a vivid, concrete and understandable format, they enable the participants to grasp the significance of subject presentations in a much shorter period of time than is usually possible through the use of other means of communication.

Films are used in public affairs programs (1) to present information, (2) to provide ideas for discussion, and (3) to stimulate community action and sometimes all three together. A film such as *Now the Peace* which deals with the development of the United Nations may be used in a public affairs program to provide information; its use stimulates discussion which sometimes results in some form of group action.

Information Programs

Although discussion is desirable, films can be used effectively just to present facts and background information. Film programs sponsored by government, industries and various community organizations during the war were acknowledged to be responsible in part for increased production, war bond sales, participation in home defense and victory garden programs, and for maintaining public morale.

Information films designed to stimulate interest in public affairs may be used in several ways. Occasionally they may be worked into the entertainment programs of men's and women's clubs, special interest groups, dormitory groups, and fraternal organizations. While the expressed purpose of these programs is to entertain,

significant information and ideas can thus be communicated.

A second use of information films is in a regular series of film programs. These have some immediate value and often they result in the formation of study groups.

Discussion Programs

Discussion is a favored method of education in any democracy. Its use in the United States in public affairs education dates back to the old New England townhall meetings. Today it is almost synonymous with the American way of life.

A good discussion results when the participants have a common interest in the topic being discussed, have some understanding of the issues involved, and share a common body of information related to the topic under discussion. A good motion picture or slidefilm will aid the discussion process since it can develop interest, present basic issues in an understandable form, and provide a minimum of common information which is essential to good discussion. The growth of the *film forum*, which has gone on rapidly in recent years, illustrates the application of visual aid to discussion.

Film Forums

Many organizations have experimented with this technique and have discovered in it a highly effective

means of reaching their youth and adult constituencies. One of the earliest forums was held at the Wilmington Y.M.C.A. It was a series of six film meetings called "Talking Back to the Motion Picture." So well was it received that a second series was scheduled for the following year. Soon public libraries in Cincinnati, Cleveland, New York, and Dallas were using these forums in their work in public affairs. The Chicago Film Workshop and the Adult Education Council of Chicago have been conducting a series of workshops for the purpose of acquainting program leaders of community organizations with the method of conducting successful film forums. The Institute of Adult Education of Teachers College, Columbia University, has also been active in stimulating the wider use of films in adult discussion programs, particularly in working out criteria for selection, and preparing suitable film guides and annotations on selected films.

Film forums may be planned as feature programs which appeal to an agency's total clientele, or they may be developed as an integral part of an already existing youth or adult program. Both approaches have merit, but the latter has an added advantage in that members of the group are able to participate in the planning of the forums. Most of the principles relating to good discussion groups have relevance—good leadership, group cohesion, group size, are all important.

Organize a Film Forum Committee

A film forum is an excellent project for committee action. There are tasks requiring group decision and action as well as a good many individual duties. And it is the kind of project which challenges and holds group interest.

Determine Discussion Topics

As an initial step in film selection, have your committee choose some significant topics. These will probably be conceived as broad subject areas, e.g., "The United Nations and World Security," "Understanding Our Neighbors Abroad," etc.

Select Appropriate Films

The *Educational Film Guide* and special film lists will need to be consulted. If possible, films should be secured for preview with a view to selection, or, if this step is not feasible, your committee might consult the recommendations of film specialists who are familiar with both film content and film forum techniques. The annotations of discussion films in *Film Forum Review* provide the best aid for this purpose. Now determine which film will best serve your purposes. Select films which are relevant to the topics under discussion; make sure that they present a human problem, that they raise explicitly or at least suggest issues for discussion

and that they are interesting in treatment. Another consideration is that the film be short enough (maximum about half an hour) to allow time for discussion. For example, the film, *A Place to Live* is well suited for a discussion of housing. It is ten minutes in length, it is absorbing, and it shows the effect of poor housing on a boy and his mother rather than dealing with housing as an abstract problem.

Very few films have been produced specifically for group discussion, yet many available documentary films can be adapted to film forum use. Even films which present a slanted point of view can be used because they guarantee lively discussion. Of course care must be taken that other points of view will also be aired. Successful forums have been conducted where two films are used, but one is more usual. Slidefilms, pamphlets, books and graphic materials should be used together if they are available on the same topic.

Some of the more widely used films are: [1]

Now the Peace (2 reels), United Nations and World Security.

Partners in Production (3 reels), labor-management in Britain.

Americans All (2 reels: *March of Time*), intolerance in the United States.

We Are All Brothers (slidefilm), an appeal for racial tolerance.

The City (3 reels), housing and city planning.

India (1 reel), future of India?

Palestine (2 reels), problems facing the Jewish people.

[1] For listing of other films see *Film Forum Review*, Institute of Adult Education, 525 W. 120th Street, New York 27, N. Y.

Develop a Schedule and Book Your Films

Plan your film forums at least two or three months in advance. Good discussion films are in constant demand, and in most film libraries these films are heavily booked. The committee may find that the films selected are not available in the sequence already determined, but by shifting the order of the presentations and by making a substitution or two, it may be possible to adhere to the original forum dates.

Preview the Films

You will find that films are generally sent by the libraries to arrive a day in advance of anticipated use. This will permit your committee or forum leader to preview the films so that an adequate plan for their use can be worked out. The preview is also essential to the preparation of leader's guides.

The Leader's Guides

The leader's guide will contribute much to the effectiveness of the discussion leader, and it can be prepared in such a manner that it may also be used by the film forum participants. It focuses attention on the issues raised in the film and helps the members view the film in an *active* manner. Where prepared guides are available from such bodies as the National Committee on Film Forums they save the committee considerable

work.[2] A good guide which can be accommodated on two mimeographed sheets would include the following items:

1. A statement of the topic under discussion and its bearing on the vital interests of the participants.
2. Data concerning the film, including title, producer, length, and source.
3. A few leading questions for discussion.
4. The main issues raised in the film.
5. Suggested reading list.

Schedule Both Room and Equipment

You should schedule well in advance of anticipated use the room to be used for projection, a projector and screen, and a competent projectionist. If you are using a large hall, a public address system may be needed for the discussion period. (It should be emphasized, however, that the best forums are usually conducted in an informal setting with small groups).

Secure Leadership

A good discussion leader is essential for an effective forum. He should have had extensive prior experience in discussion leadership but he need not be a specialist on the topic under discussion. His job is to lead discussion, not dominate it.

[2] Sample guides may be secured from the following organizations:
Association Films, 347 Madison Avenue, New York 17, N. Y.
Chicago Film Workshop, 84 E. Randolph St., Chicago 1, Illinois.
National Committee on Film Forums, 525 W. 120th Street, New York 27, N. Y.
National Film Board of Canada, 84 E. Randolph St., Chicago 1, Illinois.

A resource person or a panel is frequently used as a device to stimulate discussion. Resource persons may be subject specialists representing diverse points of view. If subject specialists are used, you should get them together prior to the meeting to preview the film. Make sure that they understand the issues involved in the discussion which is to follow, and that they understand their respective jobs. If they are unable to see the film, the leader's guide may be used to familiarize them with its content.

Develop a Film Forum Time Schedule

A film forum should be conducted in a business-like manner. A time schedule should be developed in advance and adhered to by the leader. Your committee might find the following schedule useful:

1. Introductory statement, 5 to 10 minutes.
2. Film showing, 14 to 30 minutes.
3. Panel discussion, 5 to 10 minutes.
4. Discussion from the floor, 30 to 50 minutes.
5. Summary statement, 5 minutes.

Physical Considerations

Projector operation, screen position, room darkening, ventilation, acoustics, and seating are all factors which must be considered in any film forum presentation. These factors are discussed in detail in Chapter 3 of this manual.

Introduce the Film

Never show a film "cold." You would not treat a guest speaker that way. You give him an introduction, not to flatter his ego, but to prepare your audience for the contribution he is going to make, to relate his talk to what has gone before and point up its relevance to future programs. It is the same with a film—its relevance to your group must be pointed up.

Remember, too, that audiences are used to films for entertainment. They are accustomed to watch and listen passively. But in your forum you want them to be active participants. You achieve this by preparing them prior to the screening. Use your introduction to indicate the significance of what they are going to see.

Then, there may be distractions in the film you are using. It may only be a thick accent or peculiar looking clothes and yet be enough to keep your audience from close attention to the problem at issue. Often a warning of the surprises they will encounter in the film is enough to offset such minor distractions.

But, above all, *be brief*. Your audience will be impatient to see the film!

Tips for the Discussion Leader

1. Know the content of the film. Preview the film and master the leader's guide.
2. Introduce the film as discussed above.

3. Bridge the gap between the film showing and the discussion period by relating the issues raised in the film to the group's interests. The leader's guide should be helpful.

4. If a resource person or panel is used, make introductions, and hold presentations to a minimum. Otherwise the panel may take up most of the discussion period.

5. Talk as little as possible. Refer all questions back to the group, or direct them to the panel or resource person.

6. Check extended speeches from the floor.

7. Keep the group on the main issues of the topic being presented.

8. Sum up occasionally the responses to major issues raised.

9. Terminate the discussion while it is still going strong.

10. Summarize the discussion period and terminate the meeting.

Entertainment Films Used for Discussion

Leaders in informal education have sometimes failed to use all the educational possibilities in their community. Sometimes entertainment films provide splendid fare for discussion. Recently a men's club in a Catholic church and a labor educational forum both have used this material with excellent results. They go

in a body to some film where social issues are developed, meet as a group afterward over coffee, and discuss the issues or suggested proposals for action. One of these groups recently went to *The Best Years of Our Lives* and a program for the group for the entire month following grew out of this experience.

Community Action

After a group has studied some problem intensively they may be ready to take some action. At this stage, a film is sometimes helpful in "polarizing" attitudes. A film like *The City,* shown after a study group has gone thoroughly into the matter, has been used successfully as a prelude to the planning of a program of local action on a housing problem.

Slidefilms

For some *discussions,* where a good deal of factual information is needed, and in many *informational* programs, the slidefilm, alone or in combination, is a valued aid. The new slidefilms of the Public Affairs Committee, such as *Collective Bargaining,* are closely tied in with the Committee's pamphlet program, which is an added advantage. The series on control of atomic energy of Film Publishers, and sound color slidefilms like *Man in the Cage* of the UAW-CIO also point to a time when the supply of this material on problems of public affairs will be much more extensive. Some lead-

ers think that a film followed by a slidefilm which brings emphasis to the significant points at issue provides the best program material yet devised for informal education.

Radio

The millions of dollars spent annually on radio advertising attests to radio's effectiveness as a vehicle of communication. It has been used to advantage in putting across campaigns such as War Loans, the "March of Dimes" and Community Chest drives. But, with certain notable exceptions, the use of radio for informal education has never been as significant as might be expected.

Problem of Timing

One reason is the matter of time of broadcasts. With the exception of the "Chicago Round Table," "Town Hall," "Books on Trial" and occasional radio "documentaries" most adult education programs on the air are not at the time when many organized groups can meet.

An analysis of the broadcasts of two of the major networks points up this limitation. The large networks sponsored during November 1946 some 21 weekly broadcasts which might be considered adult education. Sunday programs account for 6 of these broadcasts; seven were placed on the air after 10:30 P.M. (E.S.T.);

one was broadcast at 7:00 P.M.; and the remaining programs were sent out before 6:30 P.M. Because most adult groups hold their meetings on weekdays between 7:00 P.M. and 10:00 P.M., few, if any, of these live broadcasts can be used as agency program features.

The time limitation associated with network programs also applies to broadcasts originating in local radio stations. Peak radio audiences occur at times which coincide with the meeting schedules of organized groups. Because education broadcasts are known to have limited audiences, and because educational organizations cannot afford to buy radio time, those periods best suited for public affairs broadcasts are assigned to commercial sponsors who feature entertainment programs.

Educational Programs

Studies made in the Bureau of Applied Social Research at Columbia University clearly show that thousands of radio listeners have an interest in education. But the programs they tune in are not those that educational leaders produce. They turn to the quiz programs and the daytime serials for information or for guidance in personal problems but they do not listen to any so-called "educational" broadcasts. There is more than a suggestion here that leaders in informal education still have a good deal to learn about programming before their efforts become effective.

Listener Guidance

But, even with programs as we now find them, there are great possibilities of education by radio for the imaginative group leader. His first job may be to act as a guide for his members. Radio programs are so numerous and so various that programs are often missed simply because the members are not aware that they are being broadcast. Every adult leader should see to it that his bulletins, announcements, and notice board postings will keep his members aware of the significant programs that occur each week, so the members may hear them in the agency building or at home.

Building Listening Groups

One of the main deterrents to the presentation of educational broadcasts at a time when they can be utilized by adult groups is the lack of an audience. Dr. Paul Lazarsfeld in his book, *Radio and the Printed Page,*[2a] long ago pointed out that adult education via radio required "audience building." This has already been carried out with considerable success in Canada where in *Farm Radio Forum* and *National Citizen's Forum* a well integrated network of listening groups has been carefully built up.

The *Citizen's Forum* is jointly sponsored by the Canadian Broadcasting Company and the Canadian As-

[2a] Sloan and Pearce, New York, 1940.

sociation for Adult Education. The C.B.C. produces the broadcasts which go on each Tuesday night at 8:30 P.M. The C.A.A.E. prepares and distributes study materials and organizes listening groups in homes and in community organizations such as the church, the Y.M.C.A., hospitals, and similar institutions. The purpose of the forum is to encourage discussion of important public issues. Its specific aims are stated "that every Canadian should (1) know the facts about issues of the day, (2) come to conclusions about these facts, (3) develop and test his own ideas through discussion with other people, (4) learn to work with others toward definite ends, (5) bear his responsibility for making our democracy work." [3]

Imagination Needed

There are certain obvious advantages in the use of such a planned series, or of "Town Hall" or the "Chicago Round Table." But the imaginative leader will also take advantage of single programs as they develop —a "documentary" on delinquency like the famous C.B.S. *The Eagle's Brood,* a radio social drama by Norman Corwin, a United Nations program, a presidential "fireside chat." These are all good material for group listening and discussion, but imagination is needed to take advantage of them.

[3] *What Is Citizen's Forum,* the Canadian Association for Adult Education, 340 Jarvis Street, Toronto 5, Ontario.

Just what FM has to offer leaders in informal education is not yet clearly understood. But every thoughtful leader will want to consider this matter, and, indeed, the use of television. Both study and experimentation are called for.

Transcriptions

Radio programs are frequently recorded on transcriptions for delayed broadcast purposes, or for use in educational programs. Many of these are available for program use in community agencies. Their great advantage of course is that they can be used at the time that best suits the group; without dependence on fixed radio schedules. And the program can be repeated if needed, while radio, heard once, is gone forever. National and state governmental departments are the best sources for procuring these discs. The U. S. Office of Education, the Library of Congress, the U. S. Public Health Service, and comparable state agencies have extensive collections which are available on loan to educational users. Typical of the better transcriptions is a series issued by the U. S. Office of Education entitled "Americans All—Immigrants All." It is an extended treatment of minority groups in the United States that would be excellent for use in programs dealing with intercultural problems.

Where local organizations maintain a close working relationship with local broadcasting stations it is some-

times possible to secure pertinent transcriptions of public service programs for use with discussion groups. This channel is worth investigating.

The Wire Recorder

Wire and tape recorders are now becoming available and their use will enable program leaders to utilize radio broadcasts more effectively in work with adults. Radio programs may be recorded in the agency as they are being broadcast, and these recordings may then be used at a later time in regular adult program meetings. Already at the University of Michigan they are being used to record group discussions for analysis and study and to present case material for public affairs education and leadership training. This is one of the most promising developments in the entire field.

Utilization Suggestions

Program leaders will find that the principles of utilization associated with radio are not unlike those for films and other projected communications. Although the general principles discussed in Chapter 4 apply to radio, the following specifics should be considered in the use of broadcasts for educational purposes.

Prebroadcast. Preparation for group listening involves the reading and discussion of radio program guides and other program material. Visual aids such as maps, charts, and motion pictures, might be used to

supplement these materials. Out of the preliminary discussions might evolve a series of questions which can be used to guide each individual's radio listening.

Broadcast. Small rooms should be selected, and the radio should be centrally located. Smaller rooms have better acoustics and desired informality will be secured. Prior to the broadcast, tune in the station accurately which is designated to carry the program. If transcriptions are used, have the playback set up for instantaneous use.

During the broadcast, or while listening to a transcription, it is highly desirable to secure the active participation of all listeners. This can be accomplished by encouraging note-taking, by using the guide questions suggested above, or by using a blackboard to sum up points as they are being presented.

Postbroadcast. Radio to be effective must be tied into the experiences of the group. Postbroadcast discussion serves this purpose. Groups most frequently use a discussion leader to make the discussion period meaningful, and the panel technique used in film forums can also be used here to advantage.

Program Integration

In the chapter on utilization it was pointed out that the alert leader will make effective use of all the aids and not just film and radio. Perhaps this can best be illustrated by the way U.S.O. leaders have worked out

a program entitled "Americans All," as reported in a program bulletin.

1. Borrow photographic exhibit "The Negro in American Life," or "The Jew in American Life."
2. For film forum secure motion picture, *Americans All,* from March of Time, Forum Edition, 369 Lexington Avenue, New York, N. Y., 16 minutes, $3.50, or *The House I Live In.*
3. Display poster, "I Am So An American."
4. Show as film facts, the movie, *The Negro Soldier,* or one of the film strips *We Are All Brothers, Forward All Together,* or *American Counterpoint.*
5. Use *Background for Brotherhood* (in staff library) as resource.
6. At staff conference discuss CCI report "Some Roots of Prejudice," using summary on pages 37–39.
7. On educational shelf, display U. S. Office of Education pamphlet *Postwar Education of Negroes.*[4]

[4] Suggestions for Public Affairs Education Program, Y.M.C.A.—U.S.O. (Program Bulletin Supplement, July 15, 1946.)

OUTDOOR MOVIES IN QUEBEC

Outdoor Showings in the Village Square of Quebec Are Given During the Summer Months. The Picture Is Projected Against the Side Wall of the Local Church. The Whole Community Usually Turns Out for the Event.
(Photo courtesy The National Film Board of Canada)

Chapter 10

FILMS FOR FUN

RARELY DOES a film program get under way before someone in the audience has asked, "What, no Mickey Mouse?" Questions in this vein represent expression of genuine concern. Films for fun have a legitimate place in the program of organizations interested in informal education.

Film programs of an entertainment nature can be justified from the point of view of good recreation and, therefore, of mental hygiene. For adults, they provide one means of securing wholesome relaxation from the stresses and strains of daily living. During the war the films distributed to the far-flung battle fronts did much to build up the morale of fighting men far from home. General J. H. Doolittle in expressing his appreciation for this service said, "The millions of men who were in foxholes and behind the lines will bear testimony of what Hollywood has done. You know the man in combat wanted more than anything else to be at home. Of course, he couldn't come home until his job was finished, but you carried home to him out there on the far-flung battlefronts. You did it with motion pictures. You may not be aware of it, but you even did more—

you actually added to the combat man-hours by boosting the morale of our fighting men. . . ." Testimony in a similar vein has come from the U.S.O. and the many hospital rehabilitation programs. Films can definitely function as morale builders, and problems of morale building are just as acute today as they were during the war period.

Children's Film Programs in Local Theaters

Wholesome film entertainment for children can be provided in the local community if organizations will maintain good working relationships with local theaters. A program called "The Children's Film Library," which is sponsored by the motion picture industry, makes several of the great children's film classics available to local theaters at special reduced rates. Parent-teacher associations and other community groups working closely with a theater manager usually promote these programs as Saturday morning or matinee showings. The typical program is comprised of newsreels, cartoons, and comedies along with one of the twenty-eight features from the Children's Film Library which includes titles such as the following: *Adventures of Huckleberry Finn, Alice in Wonderland, Mrs. Wiggs of the Cabbage Patch, The Prince and the Pauper,* and *The Hoosier Schoolboy.*[1]

[1] For additional information concerning the Children's Film Library, write to Motion Picture Association of America, 1600 Eye Street, N. W., Washington 6, D. C.

Programs such as that described above might provide an opening wedge which may be used to secure theatrical showings of specially selected programs for both children and adults. When the theater manager realizes that local groups are behind him with promotional effort, he may be more ready to attempt special programs.

Theater Parties

Theater going parties for specially suitable films provide an excellent extra-agency activity. *The Best Years of Our Lives* is a film of this caliber. The program planner can by currently examining the film review sections of *Parents' Magazine, New Movies,* and the *Film and Radio Discussion Guide,* suggest to his groups the titles of the better current films. In addition to providing a worthy program feature, theater parties have some effect in developing discriminating film audiences. Motion picture appreciation is a recognized activity in many progressive adult organizations. Such programs not only have the effect of improving the use of leisure time by the members but also, in the long run, will mean that better pictures will be produced. This will happen only as adults learn to throw their support behind good films and discourage attendance at mediocre and poor film showings.

Other Program Suggestions

Films for entertainment should be used in conjunc-

tion with other activities such as group singing, social games, dancing, dramatic activities, dinners, and perhaps refreshments. Care should be exercised that your group does not just "have a movie" whenever it is "stuck for an entertainment." Films should be used creatively for entertainment purposes as at all other times.

A Sports Theme

"Sports-Night" is a popular event in many father-son groups which hold forth in churches and other community agencies. As a once-a-year program, it is an effective activity in men's clubs, fraternal groups, and occasionally with adult mixed groups.

A film showing can add a good deal to a program which also includes social and active games, an acrobatic exhibition, a short and interesting talk given by a local coach, and refreshments. The film program itself may be a series of short, entertaining sports films, or a sports film coupled with perhaps a health film (Disney) and a cartoon might be shown. Appropriate films may be secured from professional sports organizations, local sports equipment dealers, or from local educational and commercial film libraries.

A Travel Theme

The lure of far-distant lands and peoples appeals to all of us. Thus, it is not surprising that travel programs

are featured in most adult program groups. The film provides a highly effective means of guaranteeing the success of such programs. Its ability to conquer both time and space in an interesting way can put even the best travel lecturer to shame.

Films can be used alone or they might be integrated into an overall program which would include a lecturer and refreshments. In planning such a program, select as a theme a country on which films are known to be available. Color films are desirable and their availability might affect the choice of such a theme. After the films have been selected and booked, secure a speaker who is familiar with the country and plan the refreshment to suit. You may also want to feature folk-dancing, arts and crafts, and folk games.

A wide variety of travel films are available. Some of the better series include those produced by the Coordinator of Inter-American Affairs and the International Film Foundation. Films such as *The Amazon Awakens, South of the Border with Disney, Yosemite National Park, Peoples of Russia, This Amazing America,* and *Wings to Alaska,* are proven choices. Many of the travelogues produced for national transportation systems are ideally suited for program featuring travel themes.

A Musical Evening

Films of musical content provide another popular type of social recreation. Here musical short subjects

and an occasional feature musical could be used with musical games. Such a program might use shorts such as *Jose Iturbi, Pianist, Mildred Dilling, Harpist,* and *Igor Gorin, Baritone*. A humorous slant can be secured by tossing in a cartoon such as *Grand Uproar,* which is a satire on grand opera.

Occasionally a musical feature may be used. *Pagliacci, Melody Master,* or *The Life and Loves of Beethoven* are suggested. *Toscanini* is a memorable film. A few free sponsored films have application here also. These include among others, *Music in the Sky* and *Sightseeing at Home* (television). For younger groups an occasional "soundie" such as *Stardust, The Music Shop,* or *Lazy Bones* may be used along with others already suggested.

An Old-time Movie Theme

The old-time movie packs a real entertainment wallop. Tied into a program featuring the "Gay 90's," a successful recreational period can be assured. Costumes, publicity, decorations, and refreshments would, of course, follow the themes set by the films being used.

During the film program the audience should be encouraged to participate actively by using appropriate sound effects to accompany the dramatic action unfolding on the screen. The villain can be hissed, the hero cheered, and the stamping of feet can be used to lend realism to the hoof-beats of the horse. Old silent films,

aided by a piano score, are the most fun. The following old-time movies are available in many local film libraries. *Border Law, Cast Adrift, And How, Cowboys and Indians, The Great Train Robbery,* and selections from the Ben Turpin and Charlie Chaplin series.

Out-of-door Film Programs

The out-of-door summer evening film programs may be a service your organization could offer to your community. A Y.M.C.A. in Montreal has an audience of 3,000 twice a week, and the police have frequently testified how important this is in supplying wholesome recreation for the entire neighborhood.

Films must be carefully selected from the best available short subjects and features. The films chosen should be geared to child rather than adult interest. When parents come along, they seem to get as much fun out of watching the children, as the children do in watching the screen.

The out-of-door film program provides an excellent opportunity for bringing about interagency cooperation. Two or more agencies may get together to sponsor such programs, or the local merchants through their better-business councils will frequently provide the finances.

Other Entertainment Programs

Film programs are frequently built around holiday

events. For Christmas, Easter, Halloween, and Thanksgiving programs, films can be high points in entertainment. For a Christmas program a religious film such as *Child of Bethlehem,* a cartoon such as *Merry Christmas,* or *Jack Frost,* and one of the hymnalogues might be used.

The singing of songs is always appropriate. There is a good supply of "bouncing ball" films and others for this purpose.

Although film cartoons are most frequently used to supplement other films in a film showing, they should not be overlooked as a feature program item. Both adults and children will welcome an occasional all-cartoon program. As a suggestion, parties may be planned around cartoons featuring *Felix the Cat, Flip the Frog, Buck Cheezer,* and *Puddy the Pup.*

Rehearsal of Winning Script. Y.M.C.A. Public Relations Project.

Chapter 11

AUDIO-VISUAL AIDS IN PUBLIC RELATIONS

COMMUNITY agencies have been rather slow to learn that they, like business and government leaders, must be concerned with public relations. The pages which follow deal with the preparation and use of motion pictures, radio, photographs, and exhibits as aids in public relations. Interpretive films and slidefilms are ideally adapted to group presentation, the radio can reach a good cross-section of the community population, photographs and graphic illustrations make printed releases more readable, and exhibits offer a novel and forceful means of reaching new groups.

MOTION PICTURES

The use of motion pictures for public relations purposes is not new. Industrial and business organizations, such as Western Electric Company and the Metropolitan Life Insurance Company, have been using films for interpretation with marked success for the past thirty years. Educational and service organizations such as churches, schools, Y.M.C.A.'s, camps, and the like have

followed the example set by industry, but often with little success. Lacking the financial resources of industry they tried to produce films on inadequate budgets by using amateurs to handle the production. Disappointed with the result, the agencies have been slow to use such means to tell their stories. More recently, however, a number of national agencies, including the Boy Scouts and the Y.M.C.A., have produced public relations films which have been widely used by member organizations. Local organizations are also finding that motion pictures provide an excellent way of telling about their work. A motion picture is dynamic. It gets and holds the interest of an audience in such a manner that the ideas presented in the film will be retained for long periods of time. A film that tells the story has these values:

1. The film will interpret an organization's program in a vivid and realistic manner. It carries the observer into the building or camp where he is able to witness individuals and groups in action. Through the film he becomes aware of a living and vital organization and service, not just of an abstract institution which is so often the impression left by words and statistics.

2. The film can, if thoughtfully planned and carefully produced, develop goodwill toward the agency. The sponsored films of industry and the incentive films produced by our government during the war have ably demonstrated this point.

3. The film provides a means of reaching community groups not otherwise touched, since a good interpretation film will be welcomed as a program aid by most groups.

4. The film is not an expensive public relations tool if

the costs are measured in terms of the people reached and the effectiveness of the presentation. In relation to numbers who see it, the cost is usually below that of direct mail.

Films may be used:

To tell the story of a program, e.g., swimming.
To tell the story of the work of a national organization, e.g., scouting.
To tell the story of a local organization, e.g., a church.

A Single Program

The promotion of specific agency activities is always aided by bringing them to the attention of outside community groups. Instructional and incentive films can be used to create interest and to supplement the activity itself. Suppose you are planning a community-wide learn-to-swim campaign, a film like *Swim and Live* or *Swimming for Beginners* can be shown to several community organizations by your physical director to stimulate interest in the campaign. Many such films, which can be used in program interpretation, are available and may be secured from any large film library, to be found in most cities.

Telling the Story of a National Organization

Several national agencies are now producing films for use in the public relations programs of their member organizations. These films are generally designed to fit into nation-wide finance or membership campaigns. The film *Men of Tomorrow,* produced by the National

Council of the Y.M.C.A., is a good example of a national agency film. *Scout Trails to Citizenship,* of the Boy Scouts of America, is another film of this type.

Tell Your Own Story

The most effective film for interpretation is one which has been produced by the local organization to tell its own story. Its message is specific and not generalized. Where such films are produced, considerable care should be taken to insure their technical excellence. Many films produced for local organizations are so amateurish that they give but a poor understanding of the organization or its service. Where agencies plan their own productions, a quality job must be done, or not at all. Have your film made by commercial producers, by professional cameramen who may volunteer their services, or by experienced amateurs who are known to do quality work.

Many organizations have experienced success in their production ventures. *Not by Books Alone,* a film produced by the Rochester Public Library, gives an excellent interpretation of the services rendered by a metropolitan library. This film was so well executed that it is now being used by libraries in all parts of the country. The special "Motion Picture" issue of *Channels* contains a useful directory for locating other agency-produced films.[1] If you are planning a film, you would

[1] April-May 1945, The National Publicity Council.

do well to preview some of these first. Film production is discussed in considerable detail in Chapter 12 of this manual.

In instances where public relations budgets are too limited to make film production feasible, inexpensive slidefilms and slides may be used to advantage in interpretation programs. One community church always puts its annual report in the form of dramatic pictographs and charts on a slidefilm. The same device (in colors) is the most popular single tool for interpreting camps.

Radio

Radio frequently provides the only avenue of contact between the agency and certain population groups in the community. Recent surveys of listener groups have shown that ninety per cent of the American homes have radios, and that this coverage for urban communities approximates ninety-five per cent.

When an agency takes to the air-waves, it becomes engaged in a complex and serious undertaking. The purpose of any broadcast should be to interpret agency activities and services in such a manner as to develop listener goodwill. This is accomplished by placing on the air only programs of professional quality. The outline presented below suggests some of the problems involved in the planning and the production of broadcasts. More detailed explanations may be secured by

consulting the sources listed in Appendix A of this manual.

How to Get on the Air

All radio stations are required by law to set aside portions of their broadcast schedules for public service programs. Agency broadcasts are classified as public service broadcasts, thus much "free" time is released for agency use. The agencies are many and the competition for this time is keen. Personal contacts with station directors are of paramount importance. Invite the director to visit your organization, talk over with him the job you are trying to accomplish, and get his understanding and goodwill. Then you may be given broadcast time and valuable assistance in the preparation of programs. The director will almost certainly make many useful suggestions.

Do not waste the time of station personnel by presenting poorly conceived ideas. Be considerate. Before approaching a station program manager with a request for broadcast time work out your program ideas in detail. The following points should be considered in planning a request:

1. Clearly define the purpose of your program.
2. Make sure that your program will be of value to the station.
3. Be certain that the program has listener appeal.
4. Prepare a suggested treatment—frame it in such a manner that it will be entertaining to the listener and yet get across the information desired.

5. Determine the amount of broadcast time needed.
6. Conceive the program at least a month in advance of its anticipated use.

Broadcast schedules are blocked out as thirteen-week units with one fifteen or thirty minute program being presented each week. Agency broadcasts must be adapted to these schedules as single programs or as a series of programs extending over several weeks. The single period is suitable for an occasional broadcast, but it should be remembered that not much happens as the result of an occasional program. Commercial organizations find that they must sponsor regular broadcasts for long periods of time to enable them to keep their products before the public. Likewise, community organizations must keep their services before the public for extended periods if they hope to have maximum effectiveness. Such a series, conceived as a public service to the community, requires a great deal of planning, promotional effort, and financial support, and for this reason is too difficult for some individual organizations. A possible solution lies in cooperative effort. A number of community organizations having common purposes can band together to provide the needed resources which will make a series program feasible. Radio stations favor co-sponsored programs because these programs guarantee a larger listening audience. They are also more likely to be richer in variety and interest.

Types of Radio Programs

After the content of a proposed program has been defined in relation to audience interest, the most effective medium for getting the agency story across must be chosen. The following types of programs are usually used.

1. *The Straight Talk.* Secure a good radio speaker who is a recognized authority on the subject being presented. By so doing you can build up your audience and at the same time simplify your promotional efforts. Names in the news are opening wedges in any publicity program. The talk must make a good radio script, and this script should be presented to the station well in advance of the broadcast.

2. *The Interview.* The interview is similar to the straight talk, except that it is presented in dialogue.

3. *The Forum.* The forum or roundtable is similar to the interview except that more people are involved. In these broadcasts one of the participants directs the questions and periodically summarizes the discussion.

4. *Drama.* The dramatic type of program has greater potential listener interest than those already mentioned, but unfortunately it is one of the most involved and difficult types of presentation. When it is used a dramatic script writer and a dramatic director having radio experience should be employed. The cast used may be amateur radio actors.

5. *Spot Announcements.* Spot announcements, usually one minute in length, are inserted between feature broadcasts to stimulate interest in fund-raising and membership campaigns, and to call attention to special programs of public interest.

Promotion

Broadcasting a good program is only one aspect of public relations—the audience is the other. A program will not have an audience unless it is effectively pro-

moted, and radio stations will not provide "free" time unless this factor is considered.

Program Preparation

As soon as the broadcast period has been assigned, begin to prepare the program. Here you will need the assistance of professionals. Where goodwill has been established with the station personnel, assistance may be forthcoming from this source. The program director may offer the services of his staff, or, if this is not convenient, he will at least suggest appropriate treatment for the program and provide references to skilled persons who will assist in the preparation of the program. A good script is basic to the production of a finished program, so do not attempt to economize here. Secure the best talent available to handle script writing.

Transcriptions

Transcriptions may be used to broadcast programs in instances where broadcast schedules conflict with actual presentations. An address of a featured speaker at an agency banquet may be given at a time when a "live" broadcast is impossible, yet it may be used on a later program by recording it for delayed broadcasting. Series broadcasts covering several weeks may be prepared in advance by utilizing transcriptions. This is sometimes done if a cast is only available for a short period of time.

Photographs

Certain principles should be followed in using news photographs.

1. Select subjects which are representative of agency activities.
2. Concentrate on one or two individuals rather than large groups.
3. Get *action* pictures—do not pose subjects.
4. Emphasize subjects and minimize backgrounds.
5. Choose one good shot in preference to many.
6. Send only 8 x 10-inch glossy prints to newspapers.
7. Use only those prints which are characterized by sharp lines and contrast.

Documentary Photographs

Documentary photographs are used in reports, brochures, and similar materials to interpret the textual content. They are designed to show the relationship of individuals to agency services and activities. Emphasis is placed on *persons,* yet names are unimportant. Documentary photographs can tell the story of an agency service through simple subject treatment involving two or three persons.

Five or six well-planned photographs which show a member's day-by-day participation in an agency program can do more to get the interpretation story across to the public than dozens of miscellaneous pictures. A camping promotion brochure which shows Dick preparing for camp, en route, and participating in regular camp activities will prove to be much more effective

than one which shows the camp grounds and various program shots.[2]

Symbolic Photographs

Symbolic photographs are best adapted to use on posters, in exhibits, and on brochure covers. They are "eye-catchers" which make an instant and strong emotional appeal, and they portray a single idea such as misery, joy, fellowship, destitution, hunger or fear. A photograph of a happy freckle-faced boy when placed on the cover of a brochure designed to secure financial support for a boys' work program, gets the attention of the reader and makes him more receptive to the message being presented.

Stock Sources

In instances where agencies cannot afford to hire professional photographers, where amateur photographers are not accessible, or where an occasional feature photograph is needed, prints are often available from a number of commercial, governmental, and national agency sources.[3]

When stock sources are used, always send a complete description of the photograph needed, and allow plenty of time to secure the print, inasmuch as several sources

[2] See Daniel D. Mich and Edwin Eberman, *The Technique of the Picture Story*, McGraw-Hill, New York, 1946.

[3] See Appendix B for a listing of sources.

may need to be contacted before an acceptable print is turned up.

Legal Considerations

A final word may be in order regarding legal safeguards in the use of photographs. Agencies can prevent unnecessary embarrassments and possible lawsuits by taking certain precautions. Always secure a written release from the persons being photographed, or if the photograph used is not owned by the agency, written permission to use it for a specified purpose should be secured, and where credit lines are requested they should be given.

Graphic Illustration

Graphic illustration is a rather broad classification which includes the following types of visual materials: line drawings, engravings, lithographs, diagrams, charts, graphs, maps, posters, and cartoons. Space does not permit a description of the use of each of these media in public relations. In general, though, they are used to supplement and interpret textual content in annual reports, brochures, and other printed releases. Sources for securing needed graphics are similar to those of photographs; namely, commercial artists, amateur artists, and stock agencies.[4]

[4] *See* "Directory of Sources for Photographs and Art Work," *Channels* (April-May 1946), published by the National Publicity Council, 130 E. 22nd St., New York 10, N. Y.

Exhibits

A glance at the window displays of large department stores should convince us of one thing—that exhibits sell products. If they can sell soap, why not service? They can and do. The Enoch Pratt Free Library of Baltimore maintains regularly a series of exhibits in ground-level display windows, and finds this medium to be effective in encouraging a wider use of its library services.

The exhibit is an effective public relations medium in any situation where groups of people assemble. Agency lobbies, agency and interagency meetings, conferences, and an occasional store window are ideal settings for exhibition purposes.

Choose the Subject

Exhibits are more than a mass of agency folders and photographs tacked to the walls of exhibit booths, rather they are designed to transmit a specific message to a predetermined audience through carefully selected and integrated materials. The first step in planning an exhibit is to define the audience. Is it adult or youth, men or women, mixed? Do you wish to appeal to business men, labor groups, or foreign language groups? The nature of the audience determines how the message will be portrayed, and the title or banner headings

of the exhibit will need to be tied into interests which are vital to the audience.

After the audience has been analyzed, decide what should be said and then translate this message into a visual format. In most exhibits this message should be presented in such a manner that the audience will grasp its significance at a glance. Remember that exhibits are generally viewed on the run, they are seldom studied.

Consult Artists

Once you are clear about your purpose and know your audience, consult a commercial display artist to secure advice concerning treatment, design, color schemes, and materials which might be used. Councils of social agencies and national organizations often provide consultative services. Do not be afraid to use them. Now draw up a working script which will include sketches of layout in color, titles, and banner headings, all with size indicated. Be sure to include working parts and lighting and wiring specifications if they are to be used.

Exhibit Materials

Factors such as budget, available materials and production resources will determine to a large extent which medium or media will be used in any given exhibit.

Photographs

Where photographs are used, poster or photo-mural sizes are desirable in most instances. Do not clutter up the exhibit with too many prints. Keep in mind that one large photograph can be more effective in getting across a message than dozens of smaller ones, and that documentary or symbolic pictures are most desirable for exhibit use. The symbolic photograph may be used as the focal point in the exhibit, and the documentary should be used to support other media which carry the major emphasis in the display.

Projected Materials

Moving exhibits always get attention. That may be the reason why motion pictures, slides, and slidefilms are being increasingly utilized as exhibit features. Where these media are used, keep the exhibit simple. A banner heading and a screen might well be the only materials visible to the audience. Whenever feasible use a rear projection screen. This gets equipment out of the way and at the same time permits a larger group to view the pictures shown. For motion pictures, continuous projectors having a self-contained translucent screen are desirable. These machines will project one reel of film continuously without having to be rewound after each showing. Standard projectors are feasible providing a mirror is used between the lens and the

screen to invert the image for rear projection. Continuous slide projectors which will accommodate a large number of 2 x 2-inch slides may be rented from commercial advertising agencies. Where slidefilms are used they must, of course, be projected manually.

Models and Dioramas

Three-dimensional visual materials offer many possibilities in exhibit use. They are characterized by depth and for this reason fit well into the design of exhibits; and they are real things or replicas of real things which are understandable to the audience. Objects like basketball, horseshoes, and pieces of craft work can suggest the scope of program services.

Small dioramas depicting agency services will be viewed with interest, and if carefully prepared can get across any desired public relations message. Interest in exhibits can be increased by moving displays, yet movement should not be carried to a point where it detracts from the message being told. One settlement house secured the desired balance by constructing a large diorama in sections on a round platform. As it slowly turned, sections of the diorama came into view showing the various program services offered.

Graphic Illustrations

Maps, charts, and pictorial graphics may be utilized in the same manner as photographs. The theme of the

exhibit may be carried by these materials, or they may be used as supplemental media. A large map of a community area, for example, may be featured on the back wall of an exhibit booth to show the range of the agency's service. Membership location or services rendered might then be expressed by well-defined circles radiating out from the agency building, or three-dimensional pictorial cutouts representing the various services offered might be over-laid on the map. Many variations of graphic presentation are, of course, possible, and they can all be effective. To get needed emphasis, keep the materials simple, present them visually, and use the minimum number which will carry the desired message.

Demonstrations

Live exhibits involving small groups working on typical agency projects are always sure-fire attractions. And of equal importance, they are inexpensive and easily organized. Boy Scout and Girl Scout troops frequently use available store windows for interpretation purposes. Craftwork, lifesaving, first aid, camping, and similar activities lend themselves well to live exhibits.

Chapter 12

SO YOU WANT TO PRODUCE A PICTURE!

PERHAPS YOU want some material to help you talk to parents about your camp, or to interpret to your annual meeting what really happened to the people in your program. Or you have heard that a film production is itself a rich learning experience for a camera club. You not only use audio-visual materials, you want to make some.

How to Make Motion Pictures

A commercially produced film is an expensive proposition, yet its value, as measured by its goodwill and fund-raising potentialities, may be sufficient to offset its cost. Because these costs may range from $1,000 to $5,000 or more per reel, this type of film is most frequently produced by large metropolitan agencies, affiliated groups of institutions, and national organizations. Smaller agencies having limited budgets may find that other types of production will fit their needs. A film planned under the guidance of a skilled amateur, or a well-prepared slidefilm may often fill the bill.

Motion Picture Production Calls for Understanding and Teamwork. (Photo courtesy Bell and Howell Company)

Agency responsibility for production does not end when a rough draft of the film treatment is turned over to a commercial producer. From the time the film is first conceived until the time the finished prints are delivered, agency personnel must work closely with the producer. In planning a film of this type the following steps should be considered:

1. *Develop a Statement of Intent.* Clearly define the purpose of the film in relation to the audience for whom it is intended.

2. *Approach a Producer.*[1] Choose a producer who does good work in the area covered by the film. After he has been selected, request him to prepare a treatment outline from the prepared statement of intent. The treatment which includes a plan for production is a narrative story of the film plot arranged by units or sequences.

3. *Call a Story Conference.* Interested staff persons, consultants, and the producer meet together to discuss the merits of the proposed treatment. Changes may be suggested and new ideas may be added.

4. *Write a Contract.* After the treatment and production budget have been approved, a flexible contract is negotiated. A contract of this type is needed to meet unforeseen production problems such as expensive and unavoidable delays in shooting and suggested changes in treatment which may be initiated by the agency.

5. *Approve the Script.* After the contract has been signed, the producer turns the approved treatment outline over to his script writer who prepares a production script. This is then carefully evaluated by the story conference group. As many as three or four scripts incorporating suggested changes may need to be written before the final draft is approved. Shooting starts after script approval has been given.

6. *Work with the Producer.* Better films result when agency representatives work closely with the producer during the shooting and editing periods. "Rushes" are viewed after each

1 *See* Appendix D for a listing of commercial producers.

day's shooting to determine the need for retakes or for adding new scenes. After all shooting has been completed, the film is edited and viewed as a total unit. If it tells the story visually, as it should, then sound is added, and a duplicate negative is prepared for printing purposes. The prints made from this "dupe" are the ones contracted for by the agency.

Non-commercial Production

Acceptable program and in-service training films costing $100 or less may be produced by agency staff members and lay workers. In the production of these films the direction and photography should be handled by either an experienced amateur or a professional cameraman. A production committee made up of interested staff and lay persons would work with the photographer in planning the films and assisting him with filming, preparing sets, lighting, editing, and various other activities.

Leader-group Production

Film production involving instructor-student groups is recognized as an important curricular activity in many schools. In a recent audio-visual survey of elementary and secondary schools, 20 per cent of the schools reporting indicated that they had produced at least one 16-mm motion picture, and 82 per cent believed that film production has a definite place in any school program.

Informal education organizations might well follow the lead of the schools by encouraging camera clubs,

dramatic groups, skill classes, and other program groups to experiment with film production. On the program group level, the films produced should not be expected to compete against professional productions. Here film quality is a secondary consideration. The rich and varied experiences gained by the participants are of primary importance.

The following outline of basic procedures in film production is presented as a guide. It is not intended to be used as a text on motion picture production, it is merely designed to point up some of the steps which must be considered. Much more detailed technical information can be secured by consulting the books listed in Appendix A of this manual.

Planning the Film

Motion pictures are more than a series of random shots spliced together on a reel. They are integrated treatments of significant ideas which result from careful planning. A production committee is essential. In addition to planning and policy making functions, the committee can assist in script writing, scheduling, preparing sets, securing equipment, handling lighting, and directing. The planning of a film involves the following considerations:

1. *Considering the Cost.* The budget available determines the nature of the film treatment. Film stock, equipment, properties, titling, and film duplication must all be carefully weighed.

2. *Choosing the Subject.* Choose a subject which will fill a real need; determine whether or not a motion picture is the best medium for presentation.

3. *Aiming the Film.* Films to be effective must be directed toward a well-defined audience.

4. *Outlining the Treatment.* The treatment outline is a guide to film planning and script writing. It is a narrative summary of the ideas to be covered in the film. Keep the treatment simple and restrict the number of ideas to be included. A *story-board* may be used during the planning stage. It is a series of sketches which interprets the treatment of each film unit or sequence.

5. *Choosing the Film Medium.* Unless sound is essential to treatment, the silent film should be chosen. It is easier to produce, far less expensive, and for some purposes is just as effective as a sound film. Color film is more difficult to use and an experienced cameraman will be needed to do the shooting.

6. *Outlining the Production Schedule.* Include places, dates, and all other items descriptions of shots and other details needed for a rapid and orderly production of the actual film.

Preparing the Scenario

The scenario is a picture interpretation of the treatment outline. In it the principal ideas are organized into a series of related units or sequences, and these in turn are translated into scenes and camera shots. If your scenario is written in paragraph form and organized according to camera shots, it may be used by the cameraman as a shooting script. In this instance the shots should be numbered in sequence. These numbers may then be used during the editing process to correctly assemble the film.

Selecting Equipment

Motion picture equipment is expensive, but it may frequently be borrowed or rented. Local camera clubs are excellent sources of procurement. The following pieces of equipment are necessary for any film production program.

1. *Camera.* Use a *good* 16-mm camera. The better cameras are equipped with a 1-inch focusing Fl.5 or Fl.9 lens, view finder, parallax adjustment, reverse wind, speeds of 8, 16, 24, 32 and 64 frames per second, and a single frame exposure.

2. *Lenses.* The lens is the key to good pictures. Use only the best. In addition to the 1-inch lens, a 15-mm lens will be needed for photography in confined spaces. Close-ups, distant scenes, and magnification of small objects require the use of 2- to 4-inch telephoto lenses.

3. *Filters.* Filters correct undesirable lighting conditions by eliminating certain colors in natural light. Yellow and red filters are most frequently used.

4. *Tripod.* A heavy tripod equipped with a panning head designed to follow either horizontal or vertical action is an essential piece of equipment.

5. *Exposure Meter.* Secure a good photoelectric exposure meter. It will save both film footage and time.

6. *Photo Lamps and Reflectors.* A quantity of Number 2 and Number 4 photo-flood lamps are needed for indoor shooting. Procure several stand reflectors to accommodate these lamps. Where an occasional spotlight is needed, a slide projector may be used.

7. *Editing Equipment.* A good film editor, a splicer, and a set of rewinds are the basic tools in the editing process. The shutter-type editor is useful for extended editing. It lessens eye fatigue, and shows the images in motion as they will appear on the screen.

8. *Titling Equipment.* An inexpensive titler can be used for most local production. Titles, however, may be secured from commercial sources at moderate rates.

Shooting the Picture

The filming of a motion picture is an involved process calling for understanding and teamwork. The specific duties of each member of the production crew should be determined well in advance of actual shooting. Timing will then be smooth and shooting will progress with a minimum number of delays. The director co-ordinates the activities of the production crew, checks on locations and properties, rehearses the cast, checks lighting, organizes the shooting order of scenes, and directs the shooting. The lighting assistant checks power sources, moves his equipment to location, and during shooting arranges lighting. The properties assistant is responsible for arranging the sets and securing costumes. The recorder makes detailed notes on each camera shot taken. This data is used when retakes are necessary. The cameraman handles all aspects of camera work. In most agency productions an experienced cameraman can handle the direction and the camera work, and interested amateurs can assist him in the other activities of filming.

Processing the Film

Best results may be obtained and considerable time can be saved by having the film processed by a commercial film laboratory.

Editing the Film

Editing, which involves cutting, selecting, and assembling the processed film requires considerable time, and calls for critical judgment on the part of the editor. The following steps are involved in this process:

1. *Using a Work Print.* Whenever duplicate prints of the finished film are desired, a copy or work print of the processed negative or reversal film should be secured from the laboratory for editing purposes. The original film may be used in editing in instances where a single finished print is desired.

2. *Cutting.* Cut the work print into numbered shots as indicated on the film and arrange these in consecutive order on a peg board, or suspend them around the edges of a cloth-lined barrel.

3. *Selecting.* Examine the cuts in a film editor, discard poorly exposed film, and make notes on needed retakes.

4. *Assembling.* After the retakes have been supplied and approved, all of the cuts are spliced together in proper sequence using the shot numbers as a guide.

5. *Evaluating.* Film is then projected before the production group for criticism. Scenes which appear to drag, or which do not contribute to the purpose of the film are cut or discarded. Sequences needing additional treatment are suggested and shot at a later date. When the necessary corrections have been made, the film is again screened for final approval.

6. *Adding Titles.* Hold the titles used to a minimum. Interpretation in a film should be handled largely by the picture. The film title should be short and so worded that it will get immediate attention and at the same time explain the content of the film. The subtitles which tie the film together and explain action are usually a line in length. They use simple, well-chosen vocabulary, and are styled to harmonize with the balance of the film.

7. *Editing the Original Print.* After the work print has received final approval, the original negative or reversal

print is taken from storage and cut to conform with the edited work print. The cuts and titles are now assembled in proper order and spliced together into a master negative.

8. *Duplicating the Film.* A "dupe," or copy of the negative should be prepared for printing purposes whenever a large number of prints are to be made. This step saves the original for possible revision, to provide stock shots for other films, or for the printing of additional "dupe" prints as needed.

Adding Sound

The feasibility of adding sound to an edited film is generally determined by the extent of the production budget. The costs of adding sound range anywhere from $150 to several thousand dollars per reel of film, depending upon factors such as dialogues, background music, sound effects, and commentary. Sound other than commentary should not be used unless it contributes to an interpretation of film content. Introductory, background, and terminal music may be regarded as a frill, and if it is not judiciously used it may actually distract from the value of a film. A sound track cannot be added successfully to a silent speed film; thus any decision to add sound must be made prior to shooting of the film.

The commentary, like subtitles in a silent film, should be carefully prepared. It should be held to a minimum, and it should be used only to interpret screen action, and it should be carefully timed with this action. The vocabulary used should be simple, nontechnical, and it should be keyed to its potential

audience. The style of the commentary should be related to the content and treatment of the film. Humor, for example, should be used only when it is appropriate to the subject matter.

Silent speed film may be adapted for sound by preparing recordings and transcriptions which carry the commentary, or by developing a script which can be read over a public address system. The commentary in both instances would be similar to that prepared for a sound film.

Making Slidefilms

Commercially produced slidefilms range in cost from $100 for silent to $3,500 for sound editions. The cost of any commercially produced slidefilm is dependent upon its length, treatment, and the amount of preliminary work done by the agency. But if you do all of the work, your only cost is for materials.

Planning the Slidefilm

A great deal of planning and thought must go into the production if a slidefilm is to serve the purpose for which it is conceived. The first step is to determine whether or not a slidefilm is the best medium for presenting a given idea. If motion is not essential, if the subject matter can be broken into a series of logical steps, and if the illustrations are always presented in the same order, use a slidefilm.

The next step involves the preparation of a shooting script, or production guide. This script may be no more than a numerical listing of the desired illustrations, or it may be a detailed outline of the illustrations accompanied by supporting sketches. Main titles, credit lines, and subtitles generally appear in the shooting script, because they as well as illustrations need to be photographed as part of the master print.

Contrast In Your Image

Remember that your slidefilm is best used for presenting one idea at a time. Pictures or drawings which have much detail are almost useless. Each frame should make its point distinctly; the important idea or person in the frame should be seen in sharp contrast to the background. Silhouette photography, heavy cartoon line drawings, and air brush treatment are effective in slidefilms.

Equipment

A 35-mm Contax, Leica, Eastman, or a camera of comparable quality equipped with a F3.5 lens should be available. This lens will handle most of the photographic work encountered, with the exception of indoor color photography, where a F1.5 or a F2 lens is desirable. Where glossy prints are used for production purposes, a larger camera is needed to produce sharp negatives for enlargement prints. A good camera using

3¼ x 4¼ or 4 x 5-inch pack or cut films and having a ground glass viewer is ideal for this work.

Photoflood lamps, reflectors, a photoelectric exposure meter, a tripod, and other miscellaneous equipment are also needed.

Copying Enlargement Prints

Nearly all of the available black and white slidefilms have been produced by copying prepared enlargement prints, drawings, charts, and similar materials on 35-mm safety film.

An experienced photographer can do most of this work if he has the proper equipment available. The simplest procedure is to reproduce all copy on 8 x 10-inch, double-weight glossy paper so that it may be copied in proper sequence on 35-mm film. These enlargements should include main titles and subtitles which set off sections of the slidefilm.

When the copy, either standard sized enlargements or miscellaneous flat surfaced materials of varying sizes, has been assembled, the 35-mm negative is made. For this process a 35-mm double-frame camera, having a lens of critical definition, and a copying stand equipped with copying lights, are needed. Where standard sized materials such as 8 x 10-inch prints are used, the camera and lens need to be adjusted for critical focus only once during the copying process, and the chances of producing sharp film images of unvarying density are

much better than when copying miscellaneous material of many sizes and having different light reflecting characteristics.

Duplication of the prepared negative must be handled commercially.

Working with Color Film

Slidefilms in color may be produced by either of two processes. The first which is generally used in commercial production involves the making of large color transparencies 4 x 5 inches or larger in size, copying these in correct numerical order on 35-mm color film to produce a master print, and finally making duplicates from this print. This process produces excellent slidefilms in color, but its cost is very high.

The second process is better adapted to agency production. All illustrations, including titles called for in the production script, are photographed on 35-mm color film. The exposed film is then sent to the processing laboratory where 2 x 2-inch paper mounts are prepared. When these are returned, examined, and certain needed retakes added, all of the 2 x 2-inch transparencies are arranged in the proper numerical order and sent again to the processing laboratory where they are copied on a continuous strip of color film. This copy becomes the completed slidefilm. Additional copies, if needed, are duplicated from the slides.

But perhaps all you want is one copy of scenes at

your camp. If so, a more direct production process may be utilized and this is much less costly. The titles and illustrations are photographed on color film in the proper order as determined from the shooting script; the exposed film rolls are sent to the laboratory where they are processed as continuous strips of film; when these are received they are spliced together and used as a slidefilm. However, this process has one serious drawback, namely, that it is extremely difficult to get a series of acceptable color pictures on the first try because of incorrect focusing or unstable lighting conditions.

Preparing a Reading Script

The reading script is the voice of the slidefilm. It renders the illustrations meaningful to the leader, and can be used for narration during a presentation.

Adding Sound

In a sound slidefilm the commentary is presented by means of a recording or transcription. Where recordings are used, the commentary can be reproduced on an ordinary phonograph.

The reading script used with a silent slidefilm may be adapted for recording purposes. The commentary should be carefully timed to fit the breaks occasioned by the changing or turning of the records or transcriptions used.

Making Slides

2 x 2-inch Slides

The problems associated with the production of 2 x 2-inch slides and slidefilms are similar. The shooting script described in connection with slidefilm production may be used as a guide for slide production, and the equipment used is common to both media.

Color Slides

Slides in color can be produced by any person who understands the fundamental principles of photography. The photographer takes the shots outlined in the shooting script directly on 35-mm color film. He next sends the exposed film rolls to the laboratory where they are processed and the resulting frames are mounted in 2 x 2-inch paper slides. When these are returned they are ready for use. If glass bound slides are desired, the processing laboratory is instructed to return the developed film in strips. The individual pictures are then clipped and mounted in light weight glass binders.

Black and White Slides

Black and white 2 x 2-inch slides are prepared by copying flat surfaced materials such as maps, charts, drawings, and enlargement photographs, or by photographing scenic subjects, action or prepared sets. Titles,

subtitles, credit lines, and captions are of course unnecessary.

Large negatives may be used to prepare 2 x 2-inch slides. In this process positive slide plates (2 x 2-inch) are used instead of the usual positive film. An enlarger equipped with an extension bellows which will permit reduction printing is essential to this process. The negative is placed in the enlarger; the enlarger is adjusted to produce a sharp image not larger than 1 1/32 x 1½-inches in size on a piece of white paper, the emulsion-covered plate is then centered and the exposure is made. The exposed plate is processed in the same manner as photographic paper. When it has dried, it is then bound with a thin glass cover. Large negatives and 3¼ x 4-inch slides may be copied directly on 35-mm film by using a light source which transmits light through the materials.

3¼ x 4-inch Slides

Photographic 3¼ x 4-inch slides are prepared either by printing on emulsion covered glass plates, or by inserting sheets of processed film between two clear glass covers.

Preparing Positive Plates

The shots outlined in a shooting script may be photographed by any camera equipped with a good lens. Cameras ranging in size from 35-mm to 4 x 5 inches

are usually used. The 3¼ x 4¼-inch camera is ideal where contact printing is used to prepare slides. The 4 x 5-inch camera can also be used for this type of printing if allowance is made in the negative for the necessary trimming.

Most 3¼ x 4-inch slides are produced by enlargement printing. The steps involved are similar to those outlined for 2 x 2-inch plates. The maximum printing area on these larger slides is 2¼ x 3 inches. Color may be added to the processed plates by photographic toning, or by tinting with transparent water colors. Details of these techniques may be found in photographic manuals.

Nonphotographic Slides

Slides of ephemeral value or slides used in connection with specialized teaching may be prepared by members of any agency group using nonphotographic methods. The first process uses a finely etched piece of glass 3¼ x 4 inches in size. Original drawings or tracings of parts of maps, illustrations, or other flat-surfaced materials are made in ink or pencil on the etched surface, and may be colored by the use of transparent inks or slide crayons. When the illustration has been completed it is covered with a piece of clear glass and bound with tape. After the slide has served its purpose, the etched glass plate may be washed and used again. These slides are very inexpensive and have a wide

range of application. If glass slide covers are available, these may be thinly coated with clear shellac and used in the same manner as etched slides.

Another process involves the use of sheets of matte-finished cellulose acetate. Lumarith is one of the trade names of this material. The large sheets are cut into pieces which will fit between slide covers. The drawing, tracing, coloring, and mounting described above may be duplicated with this medium.

Cellophane, either clear or colored, may be used to prepare typewritten slides. The projection area of a slide is traced on thin copy paper to indicate margins. This paper is placed over a typing carbon which in turn is placed over a sheet of cellophane. The assembled material is then placed in a typewriter, and the desired copy prepared. The carbon typed cellophane is then trimmed, masked, and mounted between two glass covers for projection purposes.

Silhouettes are often effective for teaching purposes. Slides are prepared by drawing outlines on dark paper, cutting out the silhouettes, and then mounting the prepared material in glass binders.

APPENDIXES

Appendix A

AUDIO-VISUAL COMMUNICATIONS: A SELECTED BIBLIOGRAPHY[1]

General References

ABC's of Visual Aids and Projectionist's Manual, **by Philip Mannino. Educational Film Library Association, 1600 Broadway, New York 19, N. Y., 1946. 83pp. $1.00.**

This practical handbook deals with the selection and use of visual equipment.

Acoustic Treatment of Auditoriums. **Bell and Howell Co., 7100 McCormick Road, Chicago 45, Ill., 1945. 15pp. Gratis.**

Published with a view to assisting users of motion picture equipment in the solution of sound reproduction problems and improvement of sound in auditoriums.

Architect's Visual Equipment Handbook. **Bell and Howell Co., 7100 McCormick Road, Chicago 45, Ill., 1945. 18pp. Gratis.**

Excellent booklet designed to aid school administrators, board members and architects with problems of audio-visual equipment installations in classrooms, conference rooms, and auditoriums. Acoustics, illumination, seating, electrical specifications, projection booths, and equipment location are considered. Suggested procedures may also be applied to churches, industrial buildings and informal education institutions.

Audio-Visual Aids in the Armed Services, **by John R. Miles and Charles R. Spain. American Council on Education, Washington, D. C., 1947. 96pp. $1.25.**

A study of the applications of war-time experience to education.

[1] Titles starred (*) are recommended for first consideration.

***Audio-Visual Aids to Instruction*, by Harry C. McKown and Alvin B. Roberts. McGraw-Hill Book Company, New York, N. Y., 1940. 385pp. $3.00.**

This handbook is concerned with the use of audio-visual materials by in-service teachers. Utilization principles, descriptions of aids, applications to lower and upper classes and high school programs, and administering a program are discussed.

***Audio-Visual Handbook*, 5th ed., by Ellsworth C. Dent. Society for Visual Education, Inc., 100 E. Ohio Street, Chicago 11, Ill., 1946. 226pp. $2.00.**

Focused toward schools, this manual deals with the utilization of audio-visual communications in the teaching process. Sources of materials and equipment are listed.

***Audio-Visual Methods in Teaching*, by Edgar Dale. The Dryden Press, New York, 1947. 546pp. $4.25.**

Written for the teacher and the teacher trainee, this book presents in a simple and readable style a survey of the utilization of audio-visual materials in teaching. The text is divided into four main divisions: (1) theory of audio-visual materials, (2) audio-visual teaching materials, (3) audio-visual methods applied to the classroom, and (4) audio-visual methods applied to the school system. The latest and most complete manual for schools.

***Audio-Visual "Tools" that Teach for "Keeps,"* by Bruce A. Findlay. Office of the Superintendent, Los Angeles City Schools, Los Angeles, Calif., 1944. 72pp. 50c.**

This pamphlet emphasizes the need for better education films which utilize "built-in" teaching techniques. Problem solving and related techniques, the author states, should be woven into the content of the film for the purpose of securing active rather than passive student participation.

***Building an Audio-Visual Program*, by Robert E. Schreiber and Leonard Calvert. Science Research Associates, Chicago, Ill., 1946. 103pp. $1.65.**

An audio-visual manual focused toward use in high school guidance programs.

"Communication and Social Action," *The Annals of the American Academy of Political and Social Science,* March, 1947, Philadelphia, Pa. $1.00.

Democracy and audio-visual material and techniques.

***Comparative Effectiveness of Pictorial Teaching Materials,* by David J. Goodman. Center of Safety Education, New York University, New York, N. Y., 1943. 30pp. 35c.**

This study is concerned with a comparison of the effectiveness of selected visual media for teaching safety education to sixth-grade pupils. For this class level the silent film was found to be most effective.

***A Measure for Audio-Visual Programs in Schools,* by Helen Hardt Seaton. American Council on Education, 744 Jackson Place, Washington 6, D. C., 1944. 40pp. 40c.**

Part I is a report of a survey of the utilization of motion pictures in classrooms of six eastern and southern cities. School administrators will find Part II, "Recommendations," of real value when contemplating the development of a centralized audio-visual program, or when evaluating an existing program.

****Opaque Projection, a New Frontier in Teaching,* by J. Y. Taylor. Scientific Instrument Division, American Optical Company, Buffalo 11, N. Y., 1941. 35pp. Gratis.**

Designed primarily for school use, this manual deals with utilization of the opaque projector, screens, lighting, collecting and classifying materials and sources of illustrations.

****Projected Visual Aids in the Church,* by William S. Hockman. The Pilgrim Press, 14 Beacon St., Boston, Massachusetts, $3.75.**

This practical manual, written in nontechnical language, is focused toward the effective use of visual materials in the church. The author discusses the religious education values of projected materials, visual worship programs, principles of effective use, steps in organizing a church program, equipment, and physical considerations of projection. Slides and motion pictures are stressed throughout the manual.

Sources of Visual Aids for Instructional Use in Schools, **U. S. Office of Education Pamphlet No. 80, revised 1941. Superintendent of Documents, Washington, D. C. 91pp. 15c.**

This booklet, the most inclusive finding list available, is dated but still useful. Charts, graphs, exhibits, slidefilms, slides, maps, motion pictures, objects, specimens, models, pictures, photographs, posters, cartoons, stereographs, and equipment to handle these media are listed according to availability through governmental agencies, colleges, and universities, libraries, museums, associations, and commercial distributors. This list is concerned with sources of materials, rather than specific content items.

Use of Audio-Visual Materials Toward International Understanding, **edited by Helen Seaton Preston. American Council on Education, 744 Jackson Place, Washington 6, D. C., 1947. 168pp. $1.25.**

The report of a conference sponsored jointly by the American Council on Education and the Film Council of America, June 14–15, 1946. The report is a verbatim account of discussions concerned with the potential role of audio-visual materials in the United Nations Educational, Scientific and Cultural Organization (UNESCO).

Use of Training Aids in the Armed Services, **U. S. Office of Education (Bulletin 1945, No. 9), Superintendent of Documents, Washington, D. C., 1945. 34pp. 10c.**

This report analyzes the use made of training aids by various branches of the armed services, and it points to the implications of this use for postwar civilian education.

Visual Aids for Parochial, Cooperative Parish Activities Service, **Effingham, Ill., 1947. 96pp.**

Techniques and sources of audio-visual material for Catholic parishes.

Visual Aids in Industrial Training. **National Industrial Conference Board, 247 Park Avenue, New York, N. Y., 1943. 60pp. $2.00.**

Industrial personnel workers will find in this booklet many suggestions for using audio-visual aids in their programs. This pamphlet describes available aids, their uses, and outlines practices in 239 industrial concerns.

***Visual Aids in the Church*, by William L. Rogers and Paul H. Vieth. Christian Education Press, 1505 Race Street, Philadelphia 2, Pa., 1946. 198pp. $2.00.**

Prepared as a handbook on the use of visual aids in all aspects of the church program, this book considers worship services, Bible teaching, missionary education, Sunday evening programs, leadership training, and general program building.

***Visual Method in the Church*, prepared by the Committee on Visual Education. International Council of Religious Education, 203 N. Wabash Avenue, Chicago, Ill., 1944. 24pp. 25c.**

Prepared as a guide for religious educators, this manual considers the nature of visual materials, the religious value of projected materials, program planning, equipment, financing, and the establishment of a church visual program.

***Visualizing the Curriculum*, by Charles F. Hoban and others. The Dryden Press, Inc., New York, N. Y., 1937. 304pp. $3.25.**

The use of audio-visual communications in the schools is treated in this book. Chapters dealing with the principles of utilization, psychology of learning, and integrating materials of instruction are applicable to both formal and informal education.

Audio-Visual Periodicals

***Audio-Visual Guide*. Educational and Recreational Guides, Inc., 172 Renner Ave., Newark, N. J. Subscription rate, $3.00, published monthly except June, July, and August.**

Concerned with the educational use of both film and radio, this periodical is of value to the formal and informal educator alike. It carries timely articles and features theatrical and educational film reviews. Formerly *Film and Radio Guide*.

Business Screen. **Business Screen Magazines, Inc., 812 N. Dearborn Street, Chicago, Ill. Subscription rate $2.00, eight issues.**

Designed to keep business and industrial personnel abreast of new developments in the audio-visual field. Feature coverage of industrial motion picture and slidefilm releases renders this periodical a useful utilization tool.

Educational Screen. **Educational Screen, Inc., 64 E. Lake Street, Chicago 1, Ill. Subscription rate $3.00, published monthly except July and August.**

This periodical should be available to teachers in every educational institution. In addition to general articles, monthly issues feature: "The Film in International Understanding," "The Curriculum Clinic," "The Literature of Visual Instruction," "The ABC's of Visual Equipment," "Teacher Committee Evaluation of New Films," and "The Church Department."

Film Forum Review. **Institute of Adult Education, Teachers College, Columbia University, 525 W. 120th St., New York 27, N. Y. Subscription rate, $2.00, published quarterly.**

This periodical is the organ of the National Committee on Film Forums. It is devoted to the use of films in adult education and emphasizes the film forum technique. Critical reviews of discussion films are featured, as well as technical articles on preparing film guides, film evaluation, how to write film annotations, etc.

Film News. **Film News Company, the Penthouse, 15 W. 38th St., New York 18, N. Y. Subscription rate $3.50, published twice monthly.**

Contains reports of activities, conferences, conventions, new developments in the 16-mm field, and critical reviews of new films. Articles written by leading authorities are regularly featured.

Film World. **Van Halen Publications, 6060 Sunset Blvd., Hollywood 28, Calif. Subscription rate $3.00, published monthly.**

A trade periodical devoted to reporting activities and developments in the 16-mm motion picture industry.

Food for Thought. **340 Jarvis Street, Toronto, Canada. $1.00. Eight times a year.**

Reviews of new Canadian documentary films.

Hollywood Quarterly. **University of California Press, Los Angeles. $2.00 a year.**

Professional criticism of the film as a cultural medium.

See and Hear. **Audio-Visual Publications, Inc., 812 N. Dearborn St., Chicago, Ill. Subscription rate $2.00—$3.00 with yearbook, published monthly except June, July, and August.**

A new periodical which has already taken its place among recognized educational publications. Its articles, contributed for the most part by teachers on the job, emphasize practical classroom applications of all types of audio-visual communications. Occasional articles deal with adult and informal education programs.

Visual Review. **The Society for Visual Education, Inc., 100 East Ohio Street, Chicago 11, Ill. Gratis, published annually.**

This annual publication contains many readable articles of interest to both formal and informal educators. Several audio-visual media are discussed.

Motion Pictures

Army Pictorial, A Report On Activities of Army Pictorial Services. **Business Screen, Inc., 812 N. Dearborn St., Chicago, Ill. $1.00.**

The U. S. Army's own story of the contribution training aids made toward winning the war. "The Effectiveness of Films," a research project report article, should be read by all users of films.

Audio-Visual Paths to Learning, **by Walter A. Wittich and John G. Fowlkes. Harper and Brothers, New York, N. Y., 1946. 135pp. $2.00.**

This book reports the results of a controlled experiment which used instructional films in teaching fourth, fifth, and sixth

grade pupils. It shows that learnings can be improved as much as 100 per cent by using prescribed utilization procedures.

***_The Audio-Visual Projectionist's Handbook_, by Amo DeBernardis. Business Screen, Inc., 812 N. Dearborn Street, Chicago, Ill., 1947. 35pp. $1.00.**

A pictorial manual for the guidance of the student operator in schools, industry and community agencies. Room layout, projection and projector care are presented in detailed pictorial charts. Threading and rewinding diagrams for the standard projectors are also included.

A Bibliography on Motion Pictures in Education, 1940–1944. Center for the study of Audio-Visual Materials, University of Chicago Bookstore, 5802 Ellis Avenue, Chicago 37, Ill., 1945. 58pp. 75c.

An inclusive list of books, pamphlets and periodical articles. Contents are classified under headings of administration, teaching, selection, production, research, and teacher preparation.

Educational Motion Pictures and Libraries, by Gerald D. McDonald. American Library Association, 50 East Huron Street, Chicago 11, Ill., 1942. 183pp. $2.75.

This book is concerned with the administration and utilization of motion pictures in libraries.

***_Films for International Understanding_, edited by Elizabeth H. Flory for the Educational Film Library Association. Curriculum Service Bureau for International Studies, Inc., 433 W. 123rd Street, New York 27, N. Y., 1947. 134pp. $1.00.**

Part I is concerned with the utilization of films to develop international understanding. Part II is an annotated list of 16-mm films. Areas covered include: "Understanding Our World Neighbors," "International Organization and Action," and "Interpreting the U.S.A."

Focus on Learning: Motion Pictures in the School, **by Charles F. Hoban, Jr. American Council on Education, 744 Jackson Place, Washington 6, D. C., 1942. 172pp. $3.00.**

Summary report of the $150,000 project of the Committee on Motion Pictures in Education. The role of films in the educational process is carefully analyzed; methods of film evaluation are outlined; and good utilization practices are suggested.

Grierson on Documentary. **Edited by Forsyth Hardy. Collins Press, London, 1946. 256pp. $2.50.**

Significant essays by the "Founder of the documentary movement," John Grierson.

How to Stage a Film Show, Notes for Operators, **by O. C. Wilson. The National Film Society of Canada, 172 Wellington Street, Ottawa, Canada, 1942. 14pp. 10c.**

Practical manual treating the mechanics of projection.

How to Use a Motion Picture, **by William H. Hartley. National Council for the Social Studies, 1201 Sixteenth Street, N.W., Washington 6, D. C., 1945. 8pp. 10c.**

This short utilization guide is pointed toward elementary and secondary school teachers. Film selection, ordering, preview, class preparation, presentation, evaluation, and coordination with other materials are considered.

How to Use the Educational Sound Film, **by Max Russell Brunstetter. University of Chicago Press, Chicago, 1937. 174pp.**

Library Film Forums. **National Committee on Film Forums, 525 W. 120th Street, New York 27, N. Y., 1944. 41pp. 50c.**

Report of the two year study of film forums in libraries, and an excellent statement of principles underlying the use of motion pictures in discussion make this pamphlet a useful guide for adult education programming.

***_Making Films Work for Your Community_, edited by Patricia O. Blair. Educational Film Library Association, 1600 Broadway, New York 19, N. Y., 1946. 71pp. $1.00.**

Informal educators will find in this pamphlet many helpful suggestions relative to the use of films in their community work. Film forums, evaluation, sources, equipment, and utilization in community agencies are discussed.

***Motion Pictures for Postwar Education*, by the Commission on Motion Pictures in Education. American Council on Education, 744 Jackson Place, Washington 6, D. C., 1944. 23pp. 20c.**

A statement of policy regarding future direction of the work of the commission. The booklet states that future production and utilization of educational films should be related to educational objectives, study of concrete problems, production of series of films for specific purposes, production according to educational specifications, and adequate utilization programs. Emphasis on new films should be related to overcoming barriers to democratic citizenship such as illiteracy, indifference, lack of understanding of the democratic process, ignorance of history, ignorance of science and technology, physical and mental infirmity, and social inflexibility.

***Motion Pictures in Adult Education*, by T. R. Adam. American Association for Adult Education, 525 W. 120th Street, New York 27, N. Y., 1940. 94pp. 75c.**

An evaluation of the use of dramatic motion pictures in adult education.

***Motion Pictures in Education, A Summary of the Literature* . . . , by Edgar Dale and others. H. W. Wilson Company, 950 University Avenue, New York 52, N. Y., 1937. 472 pp. $2.50.**

This compilation, the best sourcebook available, is a publication of the Committee on Motion Pictures of the American Council on Education. It brings together in detailed digest format significant books, pamphlets, releases and periodical articles. The contents include: "The Administration of Visual Aids," "Teaching with the Motion Picture and other Visual

Aids," "Selecting Instructional Materials," "Film Production in Schools," "Experimental Research in Instructional Films," and "Teacher Preparation in Visual Education."

***Movies That Teach*, by Charles F. Hoban, Jr. The Dryden Press, New York, 1947. 204pp. $2.50.**

In this new book the author presents in broad and sharp outline the new conceptions and uses of motion pictures in education that were developed and tested on a mass scale in the war-training program. The lessons learned in the war program are applied to postwar educational films for schools, colleges and adult education agencies. Those chapters dealing with distribution and film library procedures will prove of value to agencies organizing their own film collections.

***Projecting Motion Pictures in the Classroom*, by Francis W. Noel. American Council on Education, 744 Jackson Place, Washington 6, D. C., 1940. 53pp. 50c.**

The purpose of this pamphlet is to aid inexperienced school personnel in the use of motion pictures in the classroom. Content of this manual is indicated by the following chapter headings: "Projection Room Plans," "Illumination and Projection," "Selection of a Projector," and "Operation of Projectors." Several methods of darkening the classroom are explained in detail. This manual is applicable to informal education.

***Recommended Procedure and Equipment Specifications for Educational 16mm Projection; a Report of the Committee on Non-Theatrical Equipment of the Society of Motion Picture Engineers*. Committee on Scientific Aids to Learning, National Research Council. Available from the U. S. Office of Education, Washington, D. C., 1941. 54pp. Apply.**

Many of the selection, screen and seating specifications appearing in audio-visual publications are derived from this technical report. Part I, general recommendations, treats picture size and seating, screen surfaces, picture brightness and light output of projectors, classroom acoustics, and projector selection; Part II deals with the optical properties of screens; and Part III lists performance specifications for projectors.

***A Report of the Training Film Program of the United States Navy*. Business Screen, Inc., 812 N. Dearborn Street, Chicago 11, Ill., 1945. $1.00.**

This illustrated special issue (No. 5, 1945) of *Business Screen* tells the whole story of the role played by films in the vast training program of the Navy. It deals with production, distribution and utilization problems, and includes articles on general as well as specialized film subjects.

***A School Uses Motion Pictures*, by the Staff of Tower Hill School, Wilmington, Delaware. American Council on Education, 744 Jackson Place, Washington 6, D. C., 1940. 118pp. $1.00.**

Detailed study of the use of films by one of the schools participating in Motion Picture Project. The process of adapting motion pictures to a broad curriculum having classes which range from kindergarten to twelfth grade is discussed. The report covers the use of films with young children, in social studies, science, communication and expression classes, and in auditorium programs.

***Speaking of Films: An Organization Manual for Local Film Councils*, prepared by Thurman J. White. Film Council of America, 6 W. Ontario Street, Chicago 10, Ill., 1947. 12pp. Gratis.**

Provides information needed to organize local chapters of the Film Council of America.

***Teaching with Films*, by George H. Fern and Eldon Robbins. The Bruce Publishing Company, Milwaukee, Wis., 1946. 146pp. $1.75.**

A practical manual for formal educators. Equipment film characteristics, technique of teaching, production and administration are discussed.

***Teaching with Motion Pictures, A Handbook of Administrative Practice*, by Edgar Dale and Lloyd L. Ramseyer. American Council on Education, 744 Jackson Place, Washington 6, D. C., 1937. 59pp. 40c.**

This pamphlet was written for the teacher or administrator who desires elementary information relative to administration of a school motion picture program. Equipment, budgeting, film sources, film merits, maintenance, record keeping, utilization and evaluation are all treated in nontechnical language.

Motion Picture Catalogs

***Catalogue of Films for Church and and Community Use*. Religious Film Association, Inc., 11 W. 42nd Street, New York, N. Y., 1947. 96pp. 35c.**

The most inclusive listing of religious motion pictures, slides, and slidefilms available is contained in this catalog. The RFA, an association of nineteen Protestant denominations, offers a nonprofit interdenominational film service. Distribution is handled through the member agencies.

***Education Films in Sports*, compiled by Frederica Bernhard. Educational Film Library Association, 1600 Broadway, New York 19, N. Y., 1945. 50c.**

Gives content and appraisals for sports teaching films.

****The Educational Film Guide*. The H. W. Wilson Company, 950 University Avenue, New York 52, N. Y. 1946 basic volume (3690 selected films) and monthly issues through June 1947, including 18 months cumulative volume to be published June 1947, subscription rate $3.00.**

This location and evaluation guide is the best 16-mm film compilation available. The films are arranged by subjects, and extensive content annotations are given.

***Educators Guide to Free Films*, 7th Edition. Educators Progress Service, Randolph, Wis., 1947. 341pp. Mimeo. $4.00.**

Some 1448 rental free motion pictures and many slidefilms are listed with their sources. Short subject annotations are given and in some instances the date of film release is indicated.

***Film Utilization Guide*, by Ford L. Lemler. Bureau of Visual Education, Extension Service, 131 North Hall, University of Michigan, Ann Arbor, Mich., 1942. 726pp. Mimeo.**

Gives detailed evaluations for 650 teaching films distributed by the University. Each review includes an extended description of content. Utilization data include maturity range, reported applications, reported teaching objectives, selected teacher comments, and availability of a teaching guide.

***Health Education for All Ages,* compiled by Lili Heimers. New Jersey State Teachers College, Upper Montclair, N. J., 1944. 36pp. 75c.**

A sourcebook of teaching aids for health education. Films, recordings and related aids are listed under the following subject headings: Physiology, alcohol, personal hygiene, nutrition, mental hygiene, marriage and sex education, diseases, nursing, safety education, and public welfare.

***The Index of Training Films,* 1946 Edition. Business Screen, Inc., 812 N. Dearborn St., Chicago, Ill., 1946. 104pp. Apply.**

This is an inclusive guide to motion pictures and slidefilms available for industrial training use.

"Motion Pictures," *Channels,* April-May 1945. National Publicity Council for Health and Welfare Services, Inc., 130 E. 22nd Street, New York 10, N. Y. 44pp. 75c.

A directory of sound motion pictures of health and welfare subjects suitable for public presentation is included in this special issue of *Channels*. Feature articles include: "A Job for Postwar Films, "Team Work in Making Movies," "Programming for Films," and "Putting on Your Show."

***A National Directory of Safety Films,* 1946–47 Edition. The National Safety Council, Inc., 20 N. Wacker Drive, Chicago 6, Ill., 1946. 48pp. 25c.**

A handy source of information on safety, first aid, and fire prevention films.

***1000 and One, the Blue Book of Non-Theatrical Films,* 22nd Edition. The Educational Screen, Inc., 64 E. Lake Street, Chicago 1, Ill. $1.00.**

The 1946–47 edition classifies 6482 motion picture films under 177 subject headings. This finding list indicates the source of many films not included in other publications.

Recreation for All Ages, **compiled by Lili Heimers. New Jersey State Teachers College, Upper Montclair, N. J., 1944. 66pp. $1.00.**

An extensive list of recreational teaching aids which includes films, recordings, and graphic illustrations. Subjects covered include administration, camping, nature lore, safety education, sports, games, parties, dramatics, dancing, handicrafts, and photography.

Selected Educational Motion Pictures, A Descriptive Encyclopedia, **compiled by the Committee on Motion Pictures in Education. American Council of Education, 744 Jackson Place, Washington 6, D. C., 1942. 372pp. $3.00.**

Gives detailed evaluations for approximately 500 educational films. The descriptions based upon actual classroom use include film objectives, content descriptions, maturity level in terms of age and grade levels.

Selected Motion Pictures, **1946–47. Association Films, 347 Madison Avenue, New York 17, N. Y. 112pp. Gratis.**

This catalog lists the film holdings of one of the largest educational film libraries in the country. Association Films (Y.M.C.A. Motion Picture Bureau) provides film service to approximately 28,000 schools, colleges, churches, industries, clubs, Y.M.C.A.'s, and other community groups.

Sixteen Millimetre Films. **National Film Society, 172 Wellington Street, Ottawa, Canada.**

A complete record of the film resources of the Society's libraries.

Sports, Physical Education and Recreation Film Guide, **1947–48 Edition. Business Screen Magazine, 812 N. Dearborn Street, Chicago, Ill. 77pp. 50c.**

A comprehensive listing of more than 800 16-mm sound and silent motion pictures and 35-mm filmstrips for instructional and recreational use by coaches, athletic and recreational directors, and for program chairmen of civic and recreation groups.

United Nations in Films. **United Nations Information Office, 610 Fifth Ave., New York 20, N. Y. Gratis.**

An excellent list of films produced by the United Nations, featuring titles valuable in educational programs dealing with public affairs and international relations.

U. S. Government Motion Pictures and Filmstrips, **compiled by Virginia Armstrong. Division of Visual Aids, U. S. Office of Education, Washington, D. C., 1945. 31pp. Gratis.**

Finding list for government motion pictures and slidefilms. Film content is given only when a descriptive catalog is not available from the sponsoring agency. Other catalogs may be ordered through the addresses provided.

Visual Aids in Safety Education. **National Education Association, 1201 Sixteenth Street, N.W., Washington, D. C., 1940. 32pp. 15c.**

Reviews 156 motion pictures and 24 sound slidefilms useful in teaching safety education.

Radio, Television, and Sound Systems

Broadcast Receivers and Phonographs for Classroom Use, **prepared by the Committee on Scientific Aids to Learning. Federal Radio Education Committee, U. S. Office of Education, Washington 25, D. C., 1939. 76pp. Gratis.**

A general discussion of the factors which should be considered in the selection of receivers and phonographs.

Central Sound Systems for Schools, **prepared by the Committee on Scientific Aids to Learning. Federal Radio Education Committee, U. S. Office of Education, Washington 25, D. C., 1940. 69pp. Gratis.**

Contains practical information relative to the selection and use of central sound systems.

****Citizen's Forum,*** **Canadian Association for Adult Education, 340 Jarvis Street, Toronto, Canada.**

Manual and study guides for radio forum groups.

***FM for Education,* by William D. Boutwell. U. S. Office of Education, Washington 25, D. C., 1944. 55pp. 20c.**

This pamphlet lists suggestions for planning, licensing, and utilizing educational FM radio stations owned and operated by school systems, colleges, and universities.

***Radio and the Printed Page,* by Paul Lazarsfeld. Duell, Sloan and Pearce, New York, 1940. 354pp. $4.00.**

A study of the effectiveness of radio and print in forming public opinion. Special section on need for building listening groups.

****Radio and Public Service,* by Dorothy Lewis. The National Association of Broadcasters, 1760 N.W., Washington 6, D. C., 1944. 96pp. Apply.**

This handbook is "must" reading for agency program and public relations work.

****Radio Program Production Aids.* Education Radio Script and Transcription Exchange, U. S. Office of Education, Washington 25, D. C., 1944. 49pp. Gratis.**

A useful guide for use by school and nonprofessional groups. Chapter I outlines preliminary arrangements, casting, rehearsals, timing and clearing music; Chapter II contains a glossary of production terms; and Chapter III is a handbook of sound effects.

***Radio Research 1942–43,* edited by Paul Lazarsfeld. Duell, Sloan and Pearce, New York, 1944. 599pp. $5.00.**

Studies of radio of considerable educational significance.

***Radio's Second Chance,* by Charles A. Siepmann. Little, Brown and Co., Boston, 1946. 282pp. $3.00.**

FM and the future of educational radio.

****Radio, the Fifth Estate,* by Judith C. Walker. Houghton Mifflin, New York, 1946. 483pp. $4.00.**

Contents include: structure of broadcasting, programming,

public service programs, sales organization, the audience, servicing the program, engineering, and educational broadcasting.

***Teaching Through Radio,* by William B. Levenson. Farrar and Rinehart, New York, N. Y., 1945. 474pp. $3.00.**

This textbook is designed for school use, but it has chapters on utilization which are applicable to informal education.

***Television: The Revolution,* by Robert E. Lee. Essential Books, New York, 1944. 230pp. $2.50.**

A popular interpretation of television and its relationship to motion pictures.

***Television: Today and Tomorrow,* by Lee DeForest. The Dial Press, New York, 1942. 361pp. $3.75.**

A book for the layman interested in understanding television.

Recordings and Transcriptions

***Educational Recordings for Classroom Use*. New York University Film Library, Recordings Division, 71 Washington Square South, New York 12, N. Y. 50c.**

This catalog lists 1,000 recordings and transcriptions dealing with social and economic problems, literature, languages, history, and science.

***Radio Transcriptions for Victory*. Federal Radio Education Committee, U. S. Office of Education, Washington 25, D. C. Gratis.**

This catalog is a selection of more than 200 transcriptions produced by various federal agencies. The material listed may be borrowed and in some instances purchased.

***Recordings for School Use,* 1942: *A Catalog of Appraisals,* by J. Robert Miles. World Book Co., 313 Park Hill Ave., Yonkers-on-Hudson, N. Y. $1.25.**

This book is a guide to the selection of recordings and transcriptions for use in schools and informal education agencies. The material evaluated is listed under the following headings:

social studies and science, prose literature, poetry, speech, Shakespeare, folk music, languages, fairy tales, nursery rhymes, and songs and stories.

Production of Audio-Visual Materials

Amateur Movies and How to Make Them, **by Alex Strasser. Studio Publications, Inc., New York, N. Y., 1937. 80pp. $3.50.**

Includes production suggestions for travel films animated cartoons, newsreels, and photoplays.

Filming for Amateurs, **by Paul Burnford. Sir Isaac Pitman and Sons, Ltd., London, England, 1940. 108pp. $3.50.**

This book emphasizes the making of good documentary films. Not a technique book.

Graphic Graflex Photography, **8th Edition, by Willard D. Morgan and Henry M. Lester. Morgan and Lester, New York, N. Y., 1945. 455pp. $4.00.**

A useful photographic reference handbook for slidefilm or slide production.

Graphic Presentation, **by Willard C. Brinton. Brinton Associates, New York, 1939. 512pp. o.p.**

The most comprehensive book dealing with graphic illustration ever published. Suggestions for production are included.

How to Make Handmade Lantern Slides, **by George E. Hamilton. Keystone View Co., Meadville, Pa., 1940. 23pp. 10c.**

This pamphlet describes methods of producing etched glass and cellophane slides.

How to Make Lantern Slides, **by Frank R. Fraprie. American Photographic Publishing Co., Boston, Mass., 1940. 80pp. 50c.**

A manual for the production of photographic slides. Slide making, copying, toning, color slides, combination printing and projection are treated.

Kodak Data Book on Copying. **Eastman Kodak Company, Rochester 4, N. Y., 1944. 64pp. 25c.**

Production of photographic negatives by copying is described.

Films, cameras, lenses, copy lighting, exposure, types of copy, and kodachrome copying are treated.

Kodak Data Book on Slides. **Eastman Kodak Company, Rochester 4, N. Y., 1943. 66pp. 25c.**

Starting at the point where the negative is ready, this manual is a guide to the production of photographic slides. Printing, developing, retouching, titling, masking, binding, and projection are described.

Leica Manual, **10th Edition, by Willard D. Morgan and Henry M. Lester. Morgan and Lester, New York, 1945. 550pp. $4.00.**

A manual for the amateur and professional covering the field of miniature (35-mm) photography.

Making School Movies, with Special Emphasis on the Production of Films on Traffic Safety, **by William G. Hart and Roy Wenger. Bureau of Educational Research, Ohio State University, Columbus, Ohio, 1941. 56pp. 50c.**

Although the emphasis of this pamphlet is placed on safety education, the production principles illustrated can be readily adapted to making motion pictures in other subject areas.

****Producing School Movies: A Manual for Teachers and Students Interested in Producing Amateur Films,*** **by Eleanor Child and Hardy Finch. National Council of Teachers of English, 211 W. 68th Street, Chicago, Ill., 1941. 151pp. $1.50.**

Best handbook available for use by the amateur school producer. Contents: choice of subject, scenario writing, equipment, filming, and editing.

Slides, How to Make and Use Them, **by Evart G. Routzahn. National Publicity Council, 130 E. 22nd Street, New York 10, N. Y., 1941. 10pp. 35c.**

This mimeographed bulletin is focused toward health and welfare personnel. Detailed production procedures are not covered. Discusses use of slides and sources of production and slide making materials.

***Students Make Motion Pictures* . . . , by Floyde E. Brooker and Eugene Herrington. American Council on Education, 744 Jackson Place, Washington 6, D. C., 1941. 142pp. $1.00.**

A report on the film production project of the Denver schools. Selection of subject, planning production, and techniques of production are discussed.

****The Technique of the Picture Story,* by Daniel D. Mich and Edwin Eberman. McGraw-Hill Book Co., New York, N. Y., 1946. 239pp. $3.50.**

The book shows you every practical step involved in creating the modern picture story—guides you through the jobs of choosing the subject, planning the story, selecting the photographs, working out the continuities, writing and editing the text, so as to synthesize all the material into a moving, cohesive story.

Appendix B

SOURCE LIST OF AUDIO-VISUAL MATERIAL

The following list of organizations which distribute audio-visual materials has been carefully compiled with the needs of the community agency worker in mind. Although it is not complete, it does include most of the sources pertinent to either program or public relations work. Organizations are listed alphabetically, and the key numbers appearing at the end of each entry indicate the inclusiveness of the audio-visual coverage. The materials are keyed as follows:

1. Motion pictures
2. Slidefilms
3. 2″x2″ slides
4. 3¼″x4″ slides
5. Recordings and transcriptions
6. Radio program listings
7. Photographs and illustrations
8. Posters
9. Charts
10. Maps
11. Exhibits

Acme News Pictures, Inc., 461 Eighth Ave., New York 1. (7)
Aetna Life Affiliated Companies, Hartford, Conn. (1,7)
American Bible Society, 450 Park Ave., New York 22. (1,7)
American Broadcasting Company, Radio City, New York 20. (5,6)
American Dental Association, 222 E. Superior St., Chicago. (1,2,3,7)
American Friends Service Committee, 20 So. 12th St., Philadelphia 7. (7,8)

American Hospital Association, 18 E. Division St., Chicago 10. (7)

American Jewish Committee, 386 Fourth Ave., New York 16. (7)

American Library Association, 50 E. Huron St., Chicago 11. (5,7)

American Medical Association, 535 N. Dearborn St., Chicago. (1,7,9,11)

American National Red Cross, 17th and D Streets, Washington. (1,7,8,9)

American Nature Association, 1214 Sixteenth St., N.W., Washington. (1,7)

American Russian Institute, 58 Park Ave., New York 16. (7,10)

American Social Hygiene Association, 1790 Broadway, New York 19. (1,3,5,7)

American Youth Hostels, Inc., 87 Main St., Northfield, Mass. (1,7)

Association Films, 347 Madison Ave., New York 17. (1,2)

Australian News and Information Service, 630 Fifth Ave., New York 20. (7,8,9)

Bell and Howell Co., 1815 Larchmont Ave., Chicago 13. (1,2)

Board of Christian Education and Publication, 1505 Race St., Philadelphia 2. (4)

Boy Scouts of America, 2 Park Ave., New York. (1,2,3,7,8)

Brandon Films, Inc., 1600 Broadway, New York 19. (1,2)

British Information Services, 30 Rockefeller Plaza, New York 20. (1,7,8,9,10)

Canadian Information Service, 1205 Fifteenth St., N.W., Washington. (7,9,10)

Castle Films, 30 Rockefeller Plaza, New York 20. (1,2)

Child Welfare League of America, Inc., 130 East 22nd St., New York 10. (7)

Church-Craft Pictures, 3312 Lindell Blvd., St. Louis 3. (3)

Columbia Broadcasting Company, 485 Madison Ave., New York. (6)

Common Council for American Unity, 20 W. 40th St., New York 18. (7)

Congress of Industrial Organizations, 718 Jackson Place, N.W., Washington 6. (8,9,11)
Cooperative League, 167 W. 12th St., New York 11. (1,7,8,9,10)
Coronet Instructional Films, 919 N. Michigan Ave., Chicago. (1,2)
Council Against Intolerance in America, 17 E. 42nd St., New York 17. (7,11)
Czechoslovak Government Information Service, 1790 Broadway, New York 19. (1,7,8,10)
Denoyer-Geppert Company, 5235 Ravenswood Ave., Chicago. (7,9,10)
DeVry Films, 1111 Armitage Ave., Chicago 14. (1,2)
East and West Association, 40 E. 49th St., New York 17. (7,8,9,11)
Encyclopaedia Britannica Films, Inc., 20 N. Wacker Dr., Chicago 6. (1,2)
Family Welfare Association of America, 122 E. 22nd St., New York 10. (7)
Film Publishers, Inc., 25 Broad St., New York 4. (1,2)
French Press and Information Service, 501 Madison Ave., New York 22. (7,8,9,10,11)
Girl Scouts, Inc., 30 W. 48th St., New York 20. (1,7,8,9)
Harmon Foundation, 140 Nassau St., New York 7. (1,2,7)
Household Finance Corporation, 919 N. Michigan, Chicago. (1,11)
Ideal Pictures Corp., 28 E. Eight St., Chicago 5. (1,2,3,4)
International Film Bureau, 84 E. Randolph St., Chicago 1. (1) 17. (7)
International News Photos, Inc., 235 E. 45th St., New York
Jam Handy Organization, 2821 E. Grand Blvd., Detroit 11. (1,2,3)
Keystone View Company, Meadville, Pa. (4)
Look Magazine, 511 Fifth Ave., New York. (7)
Metropolitan Life Insurance Company, 1 Madison Ave., New York 10. (1,2,7,9,11)
Missionary Education Movement, 156 Fifth Ave., New York 10. (7,10)

Museum of Modern Art, 11 W. 53rd St., New York 19. (1,8,11)
Mutual Broadcasting System, Inc., 1440 Broadway, New York 18. (6)
National Broadcasting Company, 30 Rockefeller Plaza, New York 20. (5,6)
National Child Labor Committee, 419 Fourth Ave., New York 16. (7)
National Conference of Christians and Jews, 381 Fourth Ave., New York 16. (1,7,8,9,11)
National Council of Y.M.C.A.'s, 347 Madison Ave., New York 17. (1,5,7)
National Dairy Council, 111 N. Canal St., Chicago 6. (1,7,8)
National Film Board of Canada, 84 E. Randolph St., Chicago 1. (1)
National Forum, Inc., 407 S. Dearborn St., Chicago 5. (2,3,9)
National Geographic Society, 16th and M Streets, Washington. (7,10)
National Publicity Council for Health and Welfare Services, Inc., 130 E. 22nd St., New York 10. (7)
National Safety Council, 20 N. Wacker Dr., Chicago 6. (1,7,8,11)
National Tuberculosis Association, 1790 Broadway, New York 19. (1,7,8,11)
National Urban League, 1133 Broadway, New York 10. (7,8,9,11)
Netherlands Information Bureau, 10 Rockefeller Plaza, New York 20. (1,7,8,9,11)
New York University Film Library, Washington Square, New York 12. (1,5)
Newsweek, Broadway and 42nd St., New York 18. (10)
A. J. Nystrom & Co., 3333 Elson Ave., Chicago. (9,10)
Pan American Union, Washington. (1,2,3,7)
Pictograph Corporation, 220 Fifth Ave., New York 10. (9)
Planned Parenthood Federation of America, 501 Madison Ave., New York 22. (7,8,9,11)
Play Schools Association, 119 W. 57th St., New York 19. (1,7)
Popular Science Publishing Co., Audio-Visual Division, 353 Fourth Ave., New York 10. (2,5)

Press Association, Inc., 50 Rockefeller Plaza, New York 20. (7)
Public Affairs Committee, Inc., 30 Rockefeller Plaza, New York 20. (2)
Rand, McNally and Co., 538 S. Clark St., Chicago. (7,9,10)
Religious Film Association, 11 W. 42nd St., New York. (1,2,3)
Religious News Service, 381 Fourth Ave., New York 16. (7)
Ryan Visual Aids Service, 409 Harrison St., Davenport, Iowa. (4)
Simmel-Meservey, 9538 Brighton Way, Beverly Hills, Calif. (1,2,5)
Society for Visual Education, 100 E. Ohio St., Chicago 11. (2,3)
Stillfilm, Inc., 8443 Melrose Ave., Hollywood, Calif. (2)
Survey Associates, Inc., 112 E. 19th St., New York 3. (7)
Teaching Film Custodians, Inc., 25 W. 43rd St., New York 18.
Twentieth Century Fund, 330 W. 42nd St., New York 18. (9,11)
Underwood and Underwood, 321 E. 44th St., New York 17. (7)
United China Relief, 1790 Broadway, New York 19. (1,7)
United Nations Department of Information, 610 Fifth Ave., New York 20. (7,8,9)
U. S. Children's Bureau, Washington. (1,2,8,9)
U. S. Coordinator of Inter-American Affairs, 444 Madison Ave., New York 22 (1,8,10)
U. S. Department of Agriculture, Washington 25. (1,2,3,5,8,9)
U. S. Department of Commerce, Washington. (1,9)
U. S. Department of Justice, Washington 25. (1,5)
U. S. Department of the Interior, Washington. (1,2,5,7,8)
U. S. Department of State, Washington. (5,8,9)
U. S. Federal Public Housing Authority, Washington. (7)
U. S. Federal Security Agency, Washington 25. (1,2,7,8,9)
U. S. Forest Service, Washington 25. (7,8,10)
U. S. Library of Congress, Washington. (1,5)
U. S. National Park Service, Washington. (1,7,8,10)
U. S. Office of Education, Washington 25. (1,2,5,8,9)
U. S. Public Health Service, Washington 14. (1,2,5,8,9)
U. S. Social Security Board, Washington 25. (1,7)
U. S. Tennessee Valley Authority, Knoxville, Tenn. (1)

Visual Education Service, Divinity School, Yale University, 409 Prospect St., New Haven 11, Conn. (3)

Visual Sciences, Box 624E, Suffern, N. Y. (2,3)

Williams, Brown and Earle, 918 Chestnut St., Philadelphia. (3,4)

Young America Films, Inc., 18 W. 41st St., New York 17. (1,2,5)

Appendix C

SOURCE LIST OF EQUIPMENT, SUPPLIES, AND PRODUCTION

The list which follows is patterned after Appendix B. The numerical symbols appearing at the end of each entry are keyed as follows:

1. Motion picture projectors
2. Slidefilm projectors
3. 2″x2″ slide projectors
4. 3¼″x4″ slide projectors
5. Opaque projectors
6. Sound slidefilm projectors
7. Recording equipment
8. Recording and transcription playbacks
9. Public address systems
10. Motion picture cameras and accessories
11. Still cameras and accessories
12. Projection screens
13. Film splicing, rewinding and editing equipment
14. Exposure meters
15. Film storage equipment
16. Slide making materials
17. Commercial film producers

Allied Radio Corporation, 833 W. Jackson Blvd., Chicago. (7,8,9)

American Bolex Company, 521 Fifth Ave., New York 17. (1,10,13)

American Optical Company, Scientific Instrument Division, Buffalo 15. (2,3,4)

Ampro Corporation, 2851 N. Western Ave., Chicago 18. (1,2,3)

Ansco, Binghamton, N. Y. (11)

Argus, Inc., 4th and Williams St., Ann Arbor, Mich. (3,11)
Atlas Educational Film Company, 1111 So. Blvd., Oak Park, Ill. (17)
Audio Productions, Inc., 630 Ninth Ave., New York. (17)
Bausch and Lomb Optical Company, Rochester 2. (2,3,4,5)
Bell and Howell Company, 7100 McCormick Rd., Chicago 45. (1,3,10,13,15)
Bray Studios, Inc., 729 Seventh Ave., New York 19. (17)
Burke & James, Inc., 321 S. Wabash Ave., Chicago. (11)
Carvel Films, Inc., 730 Fifth Ave., New York. (17)
Charles Beseler Company, 243 E. 23rd St., New York 10. (4,5)
Commercial Reproduction Company, 7936 Santa Monica Blvd., Hollywood, Calif. (17)
Concord Radio Corporation, 901 W. Jackson Blvd., Chicago. (7,8,9)
Craig Movie Supply, 1053 S. Olive St., Los Angeles 15. (13,15)
Da-Lite Screen Company, Inc., 2723 N. Crawford Ave., Chicago 39. (12)
DeVry Corporation, 1111 W. Armitage St., Chicago 14. (1,2,3,4,8,10)
Eastman Kodak Company, Rochester, New York. (1,3,10,11,16)
E. Leitz, Inc., 304 Hudson St., New York 13. (11)
Emerson Yorke Studio, 35 W. 45th St., New York 19. (17)
Fairchild Recording Company, Woodside, Long Island. (7)
Filmcraft Productions, 201 W. Jackson Blvd., Chicago 6. (17)
Fowler Company, 750 S. Wabash Ave., Chicago. (12)
Franklin Photographic Industries, 223 W. Erie St., Chicago 10. (13)
General Electric Company, 1 River Road, Schenectady 5. (14)
George Halligan, 1152 N. Bronson Ave., Hollywood 38, Calif. (17)
Golde Manufacturing Company, 1214 W. Madison, Chicago 7. (2,3,4)
Graflex, Inc., 154 Clarissa St., Rochester 8. (11)
Holmes Projector Company, 1813 Orchard St., Chicago 14. (1)
Jam Handy Organization, 2821 E. Grand Blvd., Detroit 11. (17)
Keystone Manufacturing Company, 151 Hallet St., Boston. (1,2,3,4,5,10,13)

Keystone View Company, Meadville, Pa. (4,16)
Louks and Norling Studios, 245 W. 55th St., New York. (17)
Magnavox Company, Fort Wayne 4, Ind. (6,8,9)
Movie-Mite Corporation, 1103 E. 15th St., Kansas City 6, Mo.
Natco, Inc., 505 N. Sacramento Blvd., Chicago 12. (1)
Neumade Products Corporation, 423 W. 42nd St., New York. (13,15)
O. J. McClure Talking Pictures, 1115½ W. Washington Blvd., Chicago 7. (6)
Operadio Manufacturing Company, St. Charles, Ill. (6)
Photo & Sound, Inc., 141 New Montgomery St., San Francisco 5. (17)
Picture Recording Company, 1240 Lawrence Ave., Chicago 40. (3)
Presto Recording Corporation, 242 W. 55th St., New York. (7)
Radiant Manufacturing Company, 1215 S. Talman St., Chicago 8. (12)
Radio-Mat Slide Co., Inc., 222 Oakridge Blvd., Daytona Beach, Fla. (16)
Raven Screen Corporation, 314 E. 35th St., New York 16. (12)
Reid H. Ray Film Industries, Inc., 2269 Ford Parkway, St. Paul 1. (17)
RCA Manufacturing Company, Inc., Engineering Products Division, Camden, N. J. (1,7,8,9)
Rockett Films, 6063 Sunset Blvd., Hollywood 28, Calif. (17)
Society for Visual Education, Inc., 100 E. Ohio St., Chicago 11. (2,3,16)
Sound Masters, Inc., 165 W. 46th St., New York 19. (17)
Springer Pictures, Inc., 35 W. 45th St., New York. (17)
Telefilm, 6039 Hollywood Blvd., Hollywood 28, Calif. (17)
Three Dimension Company, 4555 W. Addison, Chicago 41. (2,3)
Victor Animatograph Corporation, Davenport, Iowa. (1,10)
Weston Electrical Instrument Corporation, 614 Frelinghuysen Ave., Newark 5, N. J. (14)
Wilding Picture Productions, Inc., 1345 W. Argyle, Chicago. (17)

Appendix D

SOME NATIONAL ORGANIZATIONS INTERESTED IN UTILIZATION OF AUDIO-VISUAL MATERIALS

***American Library Association*, 50 E. Huron St., Chicago 10.**

ALA is encouraging the development of film collections in local public libraries. To expedite this objective, a full-time library film advisor is employed to assemble information, evaluate films, give guidance, and arrange film meetings and institutes.

***Association Films*, 347 Madison Ave., New York 17. (Also offices in Chicago, Dallas, and San Francisco.)**

One of the program services of the Y.M.C.A. In addition to the production and distribution of films, the staff of Association Films have been active in preparing film guides and in helping with conference workshops.

***Commission on Motion Pictures in Adult Education*, 19 So. La Salle St., Chicago.**

Currently this Commission is busy with the selection, evaluation, and annotation of films for adult education.

***Educational Film Library Association*, 1600 Broadway, New York 19.**

EFLA has been concerned with the problems of operating local film libraries and with developing standards in film evaluation. The Association has published manuals on utilization principles, provides to its members some 200 film evaluations

each year, and monthly bulletins on new developments in the field of production, distribution and utilization.

***Film Council of America*, 6 W. Ontario St., Chicago 5.**

The Council is active in helping organizations in communities develop film councils. Pamphlets dealing with the principles of organization and operation of film councils have been published.

***National Board of Review*, 70 Fifth Ave., New York 11.**

The Board of Review has a lengthy record of evaluating entertainment films which may be used with many types of audiences.

***National Committee on Film Forums*, 525 W. 120th St., New York 27.**

This Committee has been conducting research in evaluation and utilization of films for adult discussion. It publishes the *Film Forum Review* in co-operation with the Institute of Adult Education, Teachers College, Columbia University, New York.

***National Film Co-operative*, 270 Broadway, New York City.**

A new organization giving its main emphasis to films for labor education groups.

***Protestant Film Commission*, 45 Astor Place, New York.**

A comparatively new but widely representative agency of Protestant denominational and interdenominational agencies whose major purposes are the production of films for church use and representing the Protestant churches in relationships with Hollywood.

***Religious Film Association*, 45 Astor Place, New York.**

As the name suggests this organization, representing some 19 major Protestant denominations, works for the better use of film materials in religious education. It is a major distribution agency for religious and other films suitable for use in church programs.

Appendix E

SCREEN PROJECTION TABLES

Table I

16-mm Films

Lens Focal Length	DISTANCE IN FEET FROM SCREEN TO FILM															
	8′	10′	12′	15′	20′	25′	30′	35′	40′	45′	50′	60′	75′	100′	125′	150′
16mm Projector	WIDTH AND HEIGHT OF PICTURE															
5/8″	4′9″ 3′6″	5′11″ 4′5″	7′2″ 5′4″	9′0″ 6′8″	12′0″ 8′11″	Upper Dimension is Width of Picture										
¾″	3′11″ 2′11″	4′11″ 3′8″	5′11″ 4′5″	7′6″ 5′7″	9′11″ 7′5″	12′6″ 9′3″	Lower Dimension is Height of Picture									
1″	2′11″ 2′2″	3′8″ 2′9″	4′5″ 3′4″	5′7″ 4′2″	7′5″ 5′7″	9′4″ 6′11″	11′3″ 8′4″	13′1″ 9′9″								
1½″	1′11″ 1′5″	2′5″ 1′10″	2′11″ 2′2″	3′8″ 2′9″	4′11″ 3′8″	6′2″ 4′7″	7′6″ 5′7″	8′9″ 6′6″	10′0″ 7′5″	11′3″ 8′4″	12′6″ 9′4″					
2″	....	1′10″ 1′4″	2′2″ 1′8″	2′9″ 2′1″	3′8″ 2′9″	4′8″ 3′5″	5′7″ 4′2″	6′6″ 4′10″	7′5″ 5′7″	8′5″ 6′3″	9′4″ 6′11″	11′3″ 8′4″	14′0″ 10′5″	18′9″ 13′11″	23′5″ 17′6″	28′2″ 21′0″
2½″	....	1′5″ 1′1″	1′9″ 1′3″	2′2″ 1′8″	2′11″ 2′2″	3′8″ 2′9″	4′5″ 3′4″	5′3″ 3′11″	5′11″ 4′5″	6′8″ 5′0″	7′5″ 5′7″	9′0″ 6′8″	11′3″ 8′4″	15′0″ 11′2″	18′9″ 13′11″	22′6″ 16′9″
3″	....	....	....	....	....	3′1″ 2′3″	3′8″ 2′9″	4′4″ 3′3″	4′11″ 3′8″	5′7″ 4′2″	6′2″ 4′7″	7′5″ 5′7″	9′4″ 6′11″	12′6″ 9′3″	15′7″ 11′7″	18′9″ 14′0″
3½″	....	....	....	....	....	2′7″ 1′11″	3′2″ 2′4″	3′8″ 2′9″	4′3″ 3′2″	4′9″ 3′7″	5′4″ 3′11″	6′5″ 4′9″	8′0″ 5′11″	10′8″ 7′11″	13′4″ 9′11″	16′1″ 12′0″
4″	....	....	....	....	....	2′3″ 1′8″	2′9″ 2′1″	3′3″ 2′5″	3′8″ 2′9″	4′2″ 3′1″	4′8″ 3′5″	5′7″ 4′2″	7′0″ 5′2″	9′4″ 6′11″	11′8″ 8′8″	14′0″ 10′5″

Chart courtesy Bell & Howell Co.

TABLE II

2x2-Inch Slides and Double-Frame Slidefilm

Equivalent Focal Length of Lens	DISTANCE FROM SCREEN								
	10′	15′	20′	25′	30′	35′	40′	45′	50′
3″	3.0 4.6	4.5 6.8	6.0 9.0	7.6 11.4	9.1 13.6	10.5 15.8	12.1 18.2	13.6 20.4	14.9 22.4
4″	2.3 3.4	3.4 5.0	4.5 6.8	5.8 8.8	6.8 10.2	7.9 11.8	9.1 13.6	10.2 15.2	11.2 16.8
5″	1.8 2.6	2.7 4.0	3.6 5.4	4.6 7.0	5.4 8.0	6.4 9.6	7.3 11.0	8.2 12.4	9.0 13.6
6″	1.5 2.2	2.3 3.4	3.0 4.6	3.8 5.8	4.5 6.8	5.3 8.0	6.1 9.2	6.8 10.2	7.5 11.5
7″	1.3 1.9	1.9 2.9	2.6 3.9	3.3 4.9	3.9 5.9	4.5 6.8	5.2 7.8	5.8 8.7	6.4 9.6

Chart courtesy Society for Visual Education, Inc.

TABLE III

Single-Frame Slidefilm

Equivalent Focal Length of Lens	DISTANCE FROM SCREEN								
	10′	15′	20′	25′	30′	35′	40′	45′	50′
3″	2.3 3.0	3.4 4.5	4.5 6.0	5.7 7.6	6.8 9.1	7.9 10.5	9.1 12.1	10.2 13.6	11.2 14.9
4″	1.7 2.3	2.5 3.4	3.4 4.5	4.4 5.8	5.1 6.8	5.9 7.9	6.8 9.1	7.6 10.2	8.4 11.2
5″	1.3 1.8	2.0 2.7	2.7 3.6	3.5 4.6	4.0 5.4	4.8 6.4	5.5 7.3	6.2 8.2	6.8 9.0
6″	1.1 1.5	1.7 2.3	2.3 3.0	2.9 3.8	3.4 4.5	4.0 5.3	4.6 6.1	5.1 6.8	5.6 7.5

Chart courtesy Society for Visual Education, Inc.

Table IV

3¼ x 4-Inch Slides Having 2 x 3-Inch Mat Opening

Focus of Lens in Inches	Distance from Screen, in Feet																	
	4	5	6	8	10	15	20	25	30	40	50	60	70	80	90	100	110	120
4¼	2.6	3.3	4.0	5.4	6.8	10.3	13.8											
6½	1.6	2.0	2.5	3.4	4.4	6.7	9.0	11.3	13.6									
8	1.3	1.6	2.0	2.7	3.5	5.4	7.2	9.1	11.0	14.8								
8½	1.2	1.5	1.9	2.6	3.3	5.1	6.8	8.6	10.3	13.9								
12			1.3	1.8	2.3	3.5	4.8	6.0	7.3	9.8	12.3	14.8						
16				1.3	1.6	2.6	3.5	4.5	5.4	7.3	9.1	11.0	12.9	14.8				
20	Width of Screen Image (in feet)					2.0	2.8	3.5	4.3	5.7	7.3	8.8	10.2	11.8	13.2	14.8		
24						1.6	2.2	2.9	3.5	4.7	6.0	7.2	8.5	9.7	11.0	12.3	13.5	14.8

Chart courtesy American Optical Company.