



# Audio-Visual Materials

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A DISCUSSION OF THE FUTURE of audio-visual materials as library resources should include all audio-visual forms and equipment used for educational and recreational purposes. Space limitations, however, preclude full discussion or even passing reference to all forms of audio-visual materials now in use; that these have reached formidable proportions may be seen in the standard lists such as Kinder<sup>1</sup> provides.

Even adequate space would not make possible a complete forecast, for precise predictions are necessarily limited to the kinds of libraries and materials for which reliable data are available. Overall quantitative projections are likely to be invalid because information on current library expenditures for audio-visual materials is not complete, nor are data on holdings and production readily obtainable. Moreover, any specific predictions could be drastically modified or even nullified by technological advances that can only be guessed at today. Demographic changes will undoubtedly bring about economic and cultural pressures that will force the development of new audio-visual forms as well as the improvement and greater use of existing forms. A blueprint of these forms and uses and the price tag which they will carry cannot be attempted here. It is, however, possible to take a very general look at the next two decades in the light of past and current developments, and it may be helpful to examine the ways in which available data might be used for precise projections within certain limitations and local situations.

For the purposes of this discussion, it will be assumed that all audio-visual materials in educational institutions are parts of the institution's library resources regardless of where they may be housed or used. Certain audio-visual materials (such as educational motion

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pictures) have not been universally considered as belonging in libraries in some institutions and are maintained as separate collections.

Looking back at the use of audio-visual materials, one finds evidence of reliance upon visual aids since the beginnings of history. Cave wall drawings, Babylonian maps (on clay tablets), Egyptian pictographs, medieval art works, Renaissance woodcuts, and early illustrated books show the importance of the visual medium throughout recorded history. In this country, centers for audio-visual materials grew up early in the century, at first in museums, then in schools. But it is only within the memory of librarians today that (except for highly specialized collections, such as maps) libraries began assuming responsibility for audio-visual materials,<sup>2</sup> and it was not until after World War II that public libraries started seriously to build up audio-visual collections.

In the early 1950's, it was found in an A.C.R.L. survey<sup>3</sup> that college and university libraries had not developed adequate audio-visual collections. This survey was disappointing but not discouraging, for considerable groundwork had been laid and libraries and other repositories were reaching the point at which audio-visual materials could more readily be put to use. The audio-visual pioneering efforts in St. Louis, Rochester, Buffalo, and elsewhere; the development of the film and recording industries with their side benefits to educational motion pictures, microphotography, and sound recordings in libraries; and the inauguration of indexes and catalog controls for motion pictures and sound recordings are a few of the indications of the trend toward the wide acceptance of audio-visual materials that we see today in the rapidly growing collections and in the attention given to audio-visual problems and planning by librarians, teachers, technicians, foundations, governmental bodies, and others.

We have reached a point at which we should try to determine generally the future of audio-visual materials in the context of problems created by demographic factors. As the Hauser-Taitel tables indicate,<sup>4</sup> the administrators of high schools, colleges, and professional schools are faced with rapidly expanding student bodies, and public librarians must expect increasing number of users with new and intensified demands brought about by greater longevity and leisure, population shifts, and other factors resulting from demographic changes. Special librarians will also be forced to cope with new requirements as population changes result in the stepping up of research and

### *Audio-Visual Materials*

development programs and the expansion of governmental and industrial needs for library services beyond those existing today. In simplest (and oversimplified) terms, the question is what kinds of audio-visual aids will be needed and in what quantities to meet the demands of the next two decades. The answers, where they exist at all, are far from simple, as will be seen if one considers some (though not all) of the specific types of material now in use.

Maps are among the oldest of visual aids. Over the centuries, map production has gradually increased and changed in character with the advent of property taxation, the discovery of new lands, the growth of trade, the invention of printing and engraving, the development of national surveys, the planning of great wars, and the evolution of private cartography.

Current cartographic production may be estimated at well over 75,000 items (maps, globes, etc., both foreign and domestic) per year (based upon the annual intake of the Map Division at the Library of Congress for the past five years). Federal budgets for U.S. mapping agencies have increased more than 800 per cent, from \$8,200,000 to more than \$65,000,000, between 1940 and 1960. Commercial mapping has expanded at an even greater rate. Increased map production and use during the next twenty years is inevitable but unpredictable. Anticipated population increases with attendant changes in occupations and interests are related to many *immeasurable factors* now tending to increase map production and use. Among the more effective are increasing needs for both expendable and reference maps in classrooms; increased interest in the sciences and recognition of maps as basic tools for both the physical and social sciences; more time for travel and leisure which will bring about greater use of road maps, charts, and recreation maps; and a new awareness of map values, resulting from school and military training in map use.

What quantitative effects these factors will have upon map production can only be guessed at, but it is clear that to meet the resultant problems of storage, preservation, and service, libraries must improve cataloging methods, mechanize retrieval of maps from stack areas, perfect lamination and other preservation techniques, and prepare for broader service from the map collections. The latter would include recognition of many new classes of maps such as marketing maps, propaganda maps, civil defense maps, standardized city plans, telecommunication maps, etc.; the preparation of exhibits; compilation of bibliographies; and development of special reference aids and

tools for new forms of cartographic publications such as three-dimensional models, inflatable globes, and special folding air charts for high-speed travel.

Unlike maps, recordings have only recently become accepted as standard resources in libraries. Consequently, anything resembling a detailed, accurate census of library utilization of music recordings does not yet exist. From the few studies available,<sup>5, 6</sup> it would appear that most American library systems of any consequence today either already have some sort of collection of recorded music or plan to build one in the future.

Fast-moving technological changes make projection of present trends in this area particularly hazardous. The librarian of 1961 is aware of just how many problems he is saddled with because of past chaos in the technology of recorded sound, and there is no sign that anything approaching stability is in the offing. One informed sector of the industry committed to the disc is of the opinion that the familiar vinyl long-play will be supplanted, probably within the next decade, by a paper or paper-thin plastic magnetic disc. With such a disc, use-wear, almost entirely a function of stylus friction, will be eliminated. Others who hold that the future is in magnetic tape, look for vastly improved multi-track tape and miniature tape-cartridges.<sup>7</sup> Others still feel that such revolutionary processes as General Electric's thermoplastic recording (TPR), again without frictional contact, will make all other methods obsolescent.

Librarians are on fairly solid ground in predicting a considerable increase in library use of music recordings within the next two decades if no guess as to specific form or extent is hazarded. Most expected demographic changes, such as the trend toward suburban living, the natural increase in population, the increasingly greater proportion of people over 65, the shrinking work day, and the attendant expanding leisure day, plainly tend to reinforce such a general conclusion. The circulating collection for the average public library patron may well become the central music service of the public library, and its acquisition of scores and books on music may be geared to the size and scope of the record collection. The reference collection for the student may well contain the complete works of all the great masters and many minor ones, perhaps in a multiplicity of readings. And archival collections for the serious scholar such as those now growing in the Archive of Folk Song and the other collections in the Music Division of the Library of Congress, the New York

### *Audio-Visual Materials*

Public Library, Indiana and Stanford Universities, and elsewhere,<sup>8</sup> may well be getting over their growing pains.

By and large, the twenty years to come should see a more rapid rate of accretion in recorded music than in more orthodox library materials, such as scores and books, a tendency reinforced by demographic changes. An increasingly complex servicing operation in reference and archival collections, together with greatly expanded size and use of circulating collections, will aggravate already difficult library problems in space, logistics, service, and especially budget.

Although nonmusical recordings have not ordinarily been singled out for separate attention within the broader field of audio-visual activities, it is quite likely that the developments of the next two decades will witness a considerable emphasis upon and expansion of the role of these materials in library collections and services.

The present character of nonmusical recordings is as varied as are books. Included are recordings of poets reading their own poems on tape and disc, the taped recordings of interviews with prominent contemporary personalities in the form of oral histories, the record discs of selections from more extensive collections of recorded speeches and historic events, the recordings of plays, small discs used in practicing shorthand, discs and tapes used in language instruction courses, the "talking books" for the blind which cover a wide range, and many other kinds of recordings of which the above-mentioned are perhaps the more significant or frequently encountered. These recordings possess a basic identity with book materials, evidenced by the ease of transformation of the one into the other, and the reversibility of this transformation, as in the case of books changed into "talking books."

The technological advances of the past few decades that gave us today's magnetic tape recorder, long-playing record, and related equipment are still going forward; e.g., 16 $\frac{2}{3}$  r.p.m. recordings have become a reality (though on a limited scale) to blind readers, and 8 $\frac{1}{2}$  r.p.m. possibilities are now under experimental study as are encapsulated tapes played at slow speeds, and the thermoplastic recordings mentioned above. These forms invite comparison with conventional books in respect to size, ease of handling, and cost.

Further technological advances in recording techniques, processes, equipment, and media may, therefore, be anticipated within the next two decades; these will undoubtedly introduce greater flexibility, expand the use of this medium, and reduce costs so as to make non-

musical recordings more attractive as well as more popular to libraries and library budgets. Whether these advances will keep pace with demand is a problem librarians must face. Greater leisure, increased longevity, and other factors seen in demographic tables will bring stronger pressures to bear upon libraries for these audio-visual materials as well as for conventional books.

In addition, the expansion in the availability and exploitation of nonmusical recordings, with a consequent increase in the role that these materials will play as an aspect of library collections, will create problems with respect to their custody and bibliographic organization. Many of these recordings represent unique information or material worthy of preservation as a reflection of our cultural heritage and a resource for future research. The mechanics of such preservation have only recently become the subject of proper investigation.<sup>9</sup> Bibliographic control has been extended to these materials either as an aspect of the larger audio-visual family, or in their guise as a "book," the vehicle for transmission and preservation of information; but much remains to be done to organize nonmusical recordings in terms of their intrinsic character and their own potential contribution to the library economy.

Microphotography, though long known as a technique, has come into use as a library tool only within the past 30 years. Extensive copying projects for preservation, for saving space, and for acquisitions purposes have been underway for the past decade, microcopying services and microfilm reading rooms have been installed in libraries, commercial photocopying services have been established, new miniaturization techniques have been used for sizable publishing programs, and the medium has been widely adopted by scholarly groups and libraries. There can be no question of its acceptance, although scholars still object to certain technical disadvantages and to the costs of reading equipment.

While even wider use can be safely predicted, the physical aspects, costs, and methods of use in the future are far from clear. Flat microfilm and other forms of miniaturization<sup>10</sup> and electrostatic enlargement processes are all developing so rapidly and are so closely linked to the future of information storage, retrieval, and transmission systems that predictions as to future forms of microreproduction are extremely hazardous. Coupled with these unpredictable technological changes, and somewhat dependent upon them, are the cooperative enterprises now in existence as well as those under study. The Amer-

### *Audio-Visual Materials*

ican Historical Association, the Association of Research Libraries, and other groups are busy surveying needs and possibilities which will result in even more ambitious copying programs. The growing needs of scholars, scientists, and other users of research libraries, the increasing urgency to preserve deteriorating materials and to reproduce scarce materials for wider use, and the necessity for conserving space are factors that will force librarians to allocate greater sums to microcopying activities although how to correlate expenditures with these factors is a problem that can be worked out only in local situations.

Motion pictures were being made for educational purposes in the early part of the century, and by 1920 there were over two dozen state universities with film services. The development of 16 mm. safety film in the early 1930's, the standardization and simplification of equipment for school use, the impetus given by World War II (when speeded-up methods of teaching fighting men and industrial workers were urgently needed), and the surveys by G. McDonald, Patricia Cory, and others all contributed to the widespread library use of this medium. Now we have educational film indexes, catalog cards prepared by the government with the cooperation of the motion picture industry, a number of professional associations and journals concerned with educational films, film workshops, film circuits, and libraries with their own collections which are now serving millions of people, specialized uses of films (such as the U.S. Office of Education's captioned films for the deaf), and even archival collections of films.

Some indication of the importance attached to educational motion pictures may be seen in the investment of over 2½ billion dollars in this medium (including filmstrips) in the United States since World War II and a current annual dollar investment in excess of ¼ billion. These staggering figures include many industrial and other films, of which an unknown number are acquired by libraries; they are not, therefore, very meaningful in themselves. A breakdown of these figures may be of some value to the planner for the future library film needs.<sup>11</sup> Also helpful is the projection made by the Film Council of America in considering 16 mm. films over a 60-year period.<sup>12</sup>

While the trend in films and filmstrips is unmistakably toward a greater use, because of the changing relationships between motion picture films, educational television, and radio, it is difficult to predict what form this use will take. With the growth of school and library facilities for viewing, projecting, and listening to live and taped pro-

grams, collections of motion pictures, kinescopes, and tapes, or whatever the future equivalent may be, will very probably be considered routine resources. Some public and special libraries have already developed collections. Educational television has been developing for over a decade, and with such experiments as that at Hagerstown, Maryland, and most recently the Midwest Program on Airborne Television Instruction at Purdue,<sup>13</sup> along with the extensive use of closed-circuit television in medical and other fields, this medium seems destined to play an even more important role. But the extent and nature of the role is still under examination, especially in schools.<sup>14</sup>

The future of these media is even more unpredictable because of technological changes that are raising unanswerable questions: whether or not video tape will replace kinescopes, what effect this will have upon present motion pictures and upon the possibilities of 8 mm. film, to what extent centralization of projection is possible, what the full impact of transistor development will be; these are the imponderables.

Certainly as school and college populations increase, and as teachers become more scarce, the pressure to utilize all possible media will become greater. Librarians will be left behind, as many were during the development of motion pictures, if they fail to cooperate with the specialists in taking full advantage of this new service. It is not inconceivable that television will become an integral part of library reference services not only in the facsimile transmission of information but also in the consultation of catalogs and other sources at remote points when and if certain economic and technical problems can be solved.

Other audio-visual materials could be discussed if space permitted. Teaching machines especially would lend themselves to interesting speculation,<sup>15-17</sup> but enough has been said to indicate that any precise predictions of the effect demographic change will have upon audio-visual materials would be no more than speculation. All that can be done is to apply demographic data to local situations where the trends are fairly obvious and where information on audio-visual expenditures is available. This technique has been used for certain materials in the past, and there is no reason that it could not be applied with projected demographic data to materials that are not likely to undergo radical transformations. A more general approach could be made with types of libraries. Figures for audio-visual stocks in public libraries and in libraries in institutions of higher learning



### *Audio-Visual Materials*

are available for earlier years and presumably will be issued again by the Office of Education in its Biennial Survey. Correlations between audio-visual holdings in the libraries reporting to the Office of Education and the users now served by these libraries can be found and projections made in the light of the Hauser-Taitel tables. Figures for school libraries are also available,<sup>18</sup> and could be similarly projected in local situations. Additional advice on planning budgets for school libraries is found in Rufsvold's *Audio-Visual School Library Service*<sup>19</sup> and other professional writings.<sup>20-22</sup> Further surveys will be necessary to secure comparable and current figures for all types of libraries.

This procedure may be dangerous, however, if it assumes that present holdings are adequate. Standards for audio-visual materials in libraries, insofar as they exist, are far from optimum. One example may be seen in the recommendations by the Audio-Visual Commission on Public Information.<sup>23</sup> It is to be hoped that standards will improve and will be observed and that technological changes will make it possible to provide more material per user.

Although generalizations are not very helpful to planners, particularly in budgetary matters, some conclusions from the foregoing discussion and from other data that could not be included here may be useful as broad guidelines for the next two decades. During this period it seems likely that we will see the following developments and needs:

1. Greater production of audio-visual materials for educational and recreational use. The audio-visual industry has doubled in the 1950-1960 period; it is predicted<sup>24</sup> that there will have been another doubling by the end of 1962! Even though this dramatic increase does not materialize so rapidly, it is obvious that demographic changes will strongly influence production. In addition, there are social, legislative, and cultural influences at work that are bound to have a great impact in this field. The new Educational Media Program under the National Defense Education Act is one example of the stimulus now being given to audio-visual materials.

2. An even more urgent need for trained personnel to handle the greater volume and variety of audio-visual materials. Training in the technical aspects of handling audio-visual materials will be necessary, of course, but far more important will be the need for imagination, initiative, and practical planning in this field. Whether or not

librarians will take the leadership in meeting new demands will depend upon what the library schools accomplish in the next few years. There is much to be done in carrying out the recommendations Lieberman made six years ago,<sup>25</sup> and even more must be done to meet the challenges presented by new forms and new combinations of forms. This problem is vigorously stated in the mandates Stone issues to school librarians (and others) in his recent survey of the crisis in education.<sup>26</sup> It should not be assumed, however, that librarians are not active along this front. Current examples of their interest in the problem may be seen in the recent Conference on Audio-Visual Services and the School Library Program sponsored by the Columbia University School of Library Service and Teachers' College, as well as in the proposed Institute on the Future of Library Education described by H. Lancour in his Preface to this series of articles in the preceding issue of *Library Trends*.

3. More intensive studies of needs for audio-visual materials: their usefulness, effectiveness, and relationship to the requirements of teaching and library services.

4. Expansion of technological research and development to make possible greater centralization of service, greater simplicity in use, and lower costs; in other words, automation to permit a greater degree of use through self-service and through mass service.

5. Greater coordination of the various audio-visual forms with one another and with printed materials through more intensive programming and through expansion of "educational" (rather than textbook) publishing.<sup>27</sup>

6. Development of more systematic bibliographic coverage and methods of organizing audio-visual materials for use.<sup>28</sup>

While some of the foregoing predictions may be wishful thinking, it is more than likely that demographic pressures will force us to carry through on many of these hopes and finally bring us the amenities of the space age so inimitably set forth by the cartoonist Saul Steinberg in his "communicenter" and related sketches.<sup>29</sup>

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### *Audio-Visual Materials*

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JOHN L. NOLAN

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