

# Recent Developments In Audiovisual

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## INTRODUCTION

The definitions of "audiovisual" and "recent" might both be debated, but I have eschewed philosophy and simply selected a few items from among many possibilities which seem to me to be "recent developments in audiovisual" of particular interest to librarians.

## PART I — "GETTING IT ALL TOGETHER" — MULTI-MEDIA BIBLIOGRAPHIES

In the late nineteenth century librarians were always talking about the dream of a "Universal Catalog" which would record all of the significant books published anywhere in the world in one convenient, if presumably rather bulky, bibliography. The dream never came true, but perhaps the elaborately expanded *National Union Catalog* is approaching this ideal, and thus Washington has inherited the task of which in earlier years it was supposed that London, with its vast Empire, might more logically be the center.

On a much simpler level, audiovisual people have long envisioned some master bibliography which would bring together in one subject listing all of the great variety of audiovisual formats available on the market, at least in the United States. But for the most part, publishers have found it easier to specialize in one format or another.

Thus for films and filmstrips, we have the Library of Congress catalogs, the indexes from the National Information Center for Educational Media (NICEM), various lesser indexes published by the Educational Film Library Association (EFLA) and the recent "Serina" guides, from Alexandria, Virginia.

For microfilm there is the Library of Congress' *National Register of Microform Mas-*

*ters*, a major scholarly list supplemented again by indexes from such publishers as Microcard Editions and Scarecrow Press, as well as the lists available from the larger microfilm companies themselves, including University Microfilms (Xerox), Microphoto (Bell and Howell), Readex, and now several new firms providing whole libraries of materials for those who will buy their hardware.

For recordings, we have again the indispensable *Library of Congress Catalog; Music and Phonorecords*, which provides current lists fully cataloged and with meticulous subject indexing. There is also NICEM's new *Index to Educational Recordings*. On the more popular and familiar levels there are those old standbys, the *Schwann Catalog*, and the *Harrison Tape Catalog*.

The area of pictures is not very well covered with bibliographical aids as it is so huge a field. For reproductions of paintings, there are the splendid *UNESCO Catalogues*. There are also directories of picture sources, the best known probably being Miss Frankenberg's *Picture Sources*, published by Special Libraries Association. And we have indexes to pictures and illustrations in books and periodicals, published by H. W. Wilson and by Scarecrow Press, of varying degrees of completeness and usefulness.

For maps, probably the best current list is Part 6 of the *Catalog of Copyright Entries*, which should be supplemented, of course, by the catalogs of both the commercial and government map producing agencies.

But none of these sources "bring it all together," so to speak, and the seeker of a

multi-media approach to bibliography is frustrated by the necessity for consulting a bewildering variety of indexes. One attempt to solve this problem was tried in 1964 with disastrous results. This was the *Educational Media Index*, edited by a committee of the Educational Media Council, an impressive group made up of associations representing librarians, educators, communications people, and the like. This was probably the trouble — too many cooks. Had this index been published as its editors originally compiled it, it probably would have been an excellent multi-media bibliography. But differences with the publisher resulted in the removal of thousands of entries at the last moment, with no opportunity for re-editing, so that such subtleties as cross references and the like were completely upset. Nevertheless the set was published in fourteen volumes in a format which is attractive to all but those who have to use it. The *EMI* was to have had annual supplements, none of which were published, though likely most libraries paid for the set and the first promised supplement. I am told that getting re-funds for that first annual volume which never appeared was a difficult task. But the *Educational Media Index* was a start in the right direction. It did index by subject a wide variety of non-book materials. And it is a place to start, at least, in compiling multi-media bibliographies.

An unfortunate side effect of the fiasco of the *EMI* was that it apparently frightened the H. W. Wilson Company, always a sensitive organization, into ceasing to publish the *Educational Film Guide* and the *Filmstrip Guide*, two old, reliable, sober, and well-compiled indexes, which while limited in coverage were at least dependable.

The next entry into the multi-media bibliography race was the National Information Center for Educational Media, the rather awe-inspiring title of an offshoot of the Television Department of the University of Southern California. This center had stored on computers an immense amount of descriptive cataloging for educational media in many formats. From these data banks they were able to print out catalogs of their own holdings, and to sell computerized cat-

aloging services to other audiovisual libraries. The catalog of the film collection of our own Audiovisual Bureau of the University of North Carolina at Chapel Hill is a print-out by title and subject using the NICEM system. The publisher of the *EMI* therefore next looked to NICEM to provide a multi-media list which would be more to its liking. This resulted in the publication of two separate indexes, to 16mm films and to 35mm filmstrips, in 1967 and 1968 respectively. In effect, these NICEM indexes merely took the place of the old Wilson indexes. They were not at this point multi-media in approach. The NICEM indexes soon changed publishers and in 1969 and 1970, the Bowker Company issued second editions of the film and filmstrip lists, and two new NICEM indexes covering 8mm motion cartridges, and overhead transparencies, both much needed.

As of 1971 the NICEM organization has seemingly given up working with traditional book publishers and is now issuing its own indexes in a greatly expanded series: indexes to 16mm motion pictures, and to 35mm filmstrips, both in their third editions; and to 8mm cartridges, and to overhead transparencies, both in second editions. To these four format listings, three new ones have been added in their first editions, indexes to educational records, to educational tape recordings, and to video tapes, giving us a total of seven single-media indexes, and apparently establishing a pattern of frequent, if not annual, revisions. In these seven areas, the *Library of Congress Catalog* provides coverage of only films, both 16mm and 8mm, filmstrips, and recordings.

While these individual indexes to various formats are extremely valuable, they do not constitute the single multi-media index which has been so long desired, and even originally intended by NICEM, although shelved as a set they certainly simplify the multi-media bibliographical approach. A master multi-media list has not been attempted yet, but in 1971 NICEM announced several volumes which indicate that something of the sort can be and probably will be done in the future.

The *NICEM Index to Producers and*

*Distributors*, first edition, 1971, apparently compiles into a single list all of the organizations whose products are in the format lists. NICEM is also beginning to publish multi-media lists on individual subjects, the first two being on the popular topics of "Ecology," and "Black Studies." Presumably, on a larger scale, the whole series of volumes could in the future may be printed out by their capable computers into one master multi-media list. The NICEM indexes are basically annotated lists by titles, with what appear to me to be somewhat inadequate, over-simplified subject indexes — which I fear when applied to a large quantity of material would prove too broad in their headings. However they are ideal for school people as they reflect curricular offerings.

The current major contestant for the title of multi-media bibliography is the *Learning Directory*, published by Westinghouse Learning Corporation in New York, and first issued for the year 1970-71 in seven volumes arranged alphabetically by subject. What Westinghouse has done is to gather the 1970-71 catalogs of a large number of companies supplying "media" to schools and colleges. This includes not only non-book media but books as well, mostly textbooks. (Literature is excluded.) It is therefore a very ambitious and truly multi-media list—but rigorously limited to "instructional," "learning," or "educational" materials. However, as many materials are listed for "college" and "adult" audiences, the definition of "learning" materials is vague.

The *Learning Directory* is a subject (topic) index to audiovisual (and textbook) catalogs. The materials themselves are not examined. Anyone who has ever dealt with producers' catalogs knows on what a shaky basis this impressive list is built. No subject heading list is used; instead subject headings are made up from the catalogs on the basis of titles or annotations. Once a phrase or series of words have been decided upon to describe the subject of an item, the computer prints out the item under *all* of the words. This results in a fabulous, but they claim convenient, duplication of entries. For example, librarians interested in United States history will find materials under the

following headings: *American History* — 35 pages; *History, American* — 22 pages; *United States History* — 32 pages; *History, U.S.* — 1 page; *History, United States* —  $\frac{3}{4}$  page. They will also be astonished to find absolutely nothing under *United States — History*. There are no subject cross references.

The coverage is extensive: 200,000 items, i.e., book and non-book titles, are listed 600,000 times, an average of three subjects for each item; 225,000 subject headings are used. The format is  $8\frac{1}{2}$  by 11-inch pages in seven paper-bound volumes, printed mostly with one-line entries for each item, in close-packed rather fine print, the result looking something like a phone book. Each item is described by twelve terms: i.e., subject, grade level, medium, title, etc., including what we would call imprint, collation, price, and so on. Arrangement is first by subject, then under subject by grade level. These levels are taken from the producers' catalogs, but unfortunately a large amount of material has no grade level so that these items are at the end of the listings for each subject. Under grade level the material is next sub-divided by medium, arranged alphabetically, (i.e., Books, Films, Filmstrips, Records, etc.), and finally under medium by title. To the dismay of many who write or produce media for ego gratification, no provision is made for authors anywhere in the indexes.

The *Learning Directory* is without a doubt computer-produced, and is excellent proof that the computer cannot produce anything better than the catalogs put into it to begin with. However, it fills, as the reviewers say, a "long-felt need," and it is, on its scale, unique as the latest entry in the multi-media bibliography field.

PART II: "MORE AND MORE IN LESS AND LESS" — MICROFORMS

Current trends in microforms might be summed up in three statements: (1) A greater number of types of microforms are on the market, with the resulting need for a greater variety of expensive equipment; (2) Smaller and smaller images in the microforms make it possible to store more material in less space than ever before; (3)

There is increased use of the "package deal" whereby whole libraries are supplied rather than individual items.

To give some idea of the great variety of forms commonly available for libraries, let us review briefly the history of microforms. Microfilm first became widely used in libraries about 1928. It was 35mm in width and was most typically used for newspapers, at varying reduction ratios, often not less than 1/10th of the original size. As the mouldering heaps of newspapers in libraries were a major problem in preservation of vital source materials, librarians welcomed 35mm microfilm and soon it was widely used for other materials, such as rare and out-of-print books, manuscripts, and dissertations.

The Recordak Company, a division of Eastman Kodak, became probably the most famous name connected with microfilm, providing film, processing, cameras, and readers, many of which became virtually standard equipment in libraries. The familiar 100-ft. rolls of 35mm microfilm—of *The New York Times*, if nothing else—are common to all libraries today, and their usefulness, if not popularity, continues undiminished to the present. Vast amounts of material are available on conventional microfilm, and the presence of other forms does not seem to cause the original form to wither on the vine.

Equipment has been improved, in that readers are often electrically driven—rather than hand operated—which helps in the location of materials on long rolls. Reader-printers have been developed which make it possible to make an instantaneous print of whatever portion of the microfilm has been focussed on the screen. Still further developments have included the photography of "codes" on the film which make it possible to automate the operation of the reader in such a way that by dial access, for example, the proper frame is located with great speed. Microfilm may play a great role in that "library of the future" where whole collections may be recorded on some sort of microform, and the desired information rapidly retrieved through various automated and computerized devices.

Paralleling the use of 35mm microfilm in libraries was the use of 16mm microfilm in business institutions where the material microfilmed was typically smaller—correspondence, cancelled checks, and the like—rather than the pages of newspapers so typical of the library microfilm collection. It was from 16mm microfilm that the next development came.

In 1939 Albert Boni, a well-known publisher, developed a variation on the microfilm idea which he patented under the name of Readex Microprint. Mr. Boni used 16mm microfilm of books and periodicals, cut into strips, with five exposures per strip, and mounted in a frame holding ten of these strips. This resulted in a format which could then be printed by a special, very accurate form of photo-offset printing onto cards, 6 by 9 inches in size, holding fifty exposures per card. As the typical exposure accommodated two pages of text, the typical card held one hundred pages. Microprint cards were made of very large collections, such as British parliamentary papers, United States government documents, early American newspapers, long runs of foreign periodicals, and whole libraries of books. They were packaged with between one and two hundred cards in neat, strong, uniform cardboard boxes about 6 by 9 inches in size, and an inch or so thick—in short, about the size of an octavo book. Librarians, who are thought to be wary of new formats, supposedly would accept Microprint because of its convenient method of filing on regular bookshelves—indeed possibly interfiled with books—a more congenial format than 35mm microfilm which requires special files and is not at all adapted to book shelving.

Of course, Readex Microprint cards could not be read on microfilm equipment, so the Readex Company also provided Readex Microprint readers. The company successfully chose for its process material apparently not available on microfilm, so that many, I suppose most, large libraries found themselves buying sets of Microprint cards and the readers to go with them, with the consequence that two microforms became established, at least in research libraries.

About a decade later, in 1948, Fremont



Rider, then the famous librarian of Wesleyan University Library, developed with Eastman Kodak Company a new microform. Mr. Rider was concerned about the information explosion, and a few years previously had written a landmark book on the subject, *The Scholar and the Future of the Research Library*. The outgrowth of his concern was his development of the Microcard. Mr. Rider borrowed from Boni the idea of an opaque card, rather than a film. However, being a librarian, he chose the familiar 3 by 5-inch card for his format, enabling librarians to store this new microform in regular card catalog file drawers. In fact, the ideal was to do away with the books and make the card catalog the whole library. When the patron located his book in the card catalog, he would literally find the whole book microfilmed onto the Microcards. These could be removed from the catalog, taken to a nearby reader—which of course the Microcard company furnished—and read, and then returned to the file. With the eventual development of the reader-printer, he could presumably not only enlarge the book, but print out the pages he needed.

Microcards were made from 16mm film, but they were reproduced photographically by contact printing from negatives, just like the black and white contact prints some of us can remember getting back from the drugstore. By contrast, Microprint cards were printed on printing presses. The typical Microcard held 36 to 48 exposures on one side. At first they were only printed on one side, with the result that they curled badly in the file drawers. Later they were processed on both sides, so that the kinks were removed and the capacity of the card doubled to 72 to 96 exposures per card, coming close to the capacity of a Microprint card, but in a smaller area. Unlike the Readex Company, the Microcard Company allowed its process to be used by several scholarly publishers, such as the Association of College and Research Libraries, and soon there was on the market a whole new selection of materials, including a considerable amount of original material not published in book form. Again this selection was apparently different enough from those

available on microfilm and Microprint so that larger libraries at least stocked-up on long runs of Microcards, and the equipment required to read them, thus a third microform became common in our libraries.

Close on the heels of Microcards came a new microform, the microfiche. This appears to have been developed in Holland in about 1950, and first used extensively in this country by the Atomic Energy Commission for the storage of scientific reports. The word microfiche is French, and translates as microcard, but as Microcard was already in use on the market, the term has been adopted without translation. You pronounce it, depending on your affinity for the French language, mee-cro-feesh; or in American, micro-fish; or more commonly via a sort of compromise Franco-American, micro-feesh. In our rushed society, the shortened forms, both "fish" and "feesh," are also widely understood.

Microfiche is essentially the same as a Microcard or even Microprint except that the micro images are printed on film sheets rather than opaque cards. While they are available in several sizes, the 3 by 5-inch and the 4 by 6-inch are the most prevalent, and of these the 4 by 6 size seems to be the commoner. They are stored in drawers, and kept for protection in paper envelopes. The typical format of 4 by 6 microfiche allows for either 6 rows of 6 frames each (36 exposures), or 7 rows of 7 frames each (49 exposures). Obviously, being translucent, only one side can be used. As each exposure generally accommodates two pages of print, the typical 4 by 6 microfiche results in 72 to 96 pages per "fiche."

While many companies make microfiche (including Microcard Company), the Micro-Photo Company—now a subdivision of Bell and Howell—seems to have taken a leading role in introducing microfiche to libraries. It was of course accompanied by the inevitable microfiche reader, and for a fourth time libraries have adapted themselves to a new microform and its attendant "hardware."

As Microcard, Microprint and microfiche all stem from 16mm microfilm originally, the degree of reduction in size is generally the

same—about 1/20th—and therefore readers have evolved which take all three of these microforms. However, as many libraries bought this equipment as each was developed, there is commonly to be found a reader or readers for each of these three forms, plus the old familiar microfilm reader, making a total of four types of readers.

Microprint and Microcards, because they are reproduced on cardboard rather than translucent film, are called micro-opaques. The lens which enlarges the image from these cards depends upon light reflected from the cardboard. Microfilm and microfiche, on the other hand, are reproduced on translucent film, and the light needed to illumine these microforms shines through the image itself. It is like the difference between the reflected light from the moon (Microcards and Microprint) and the direct light from the sun (microfilm and microfiche). This appears to be the Achilles heel of the micro-opaques, and I have been told for years that Microcards and Microprint will gradually be replaced by microfiche because the resulting image is clearer, brighter, capable of much greater enlargement, and better adapted for prints. However, so far as I am aware, both Microcard and Readex Microprint are still putting out the opaque product. Microcard does seem to be "phasing out" cards in favor of fiche, although much of its material is available in both forms. Suffice it to say that the fifth development in microform is an outgrowth of microfiche called popularly, "ultra microfiche."

Ultra microfiche, as the name implies, provides a standard microfiche with a much smaller micro image. The standard microfiche generally has a reduction of 1/20th of the original; ultra microfiche has a reduction of 1/150th of the original size. This means that while the capacity of standard 4 by 6 microfiche is about 96 pages, the same format in ultra microfiche can accommodate a little over 3,000 pages.

This development was first introduced to the general public in 1964 at the World's Fair in New York. The developer is the National Cash Register Company, which also owns the Microcard Company. The gimmick

of the NCR demonstration at the Fair was the *Bible*, Old and New Testaments, 1240 pages, complete on one square of ultra microfiche film, 2 by 2-inches in size. The process is copyrighted under the trademark, PCMI (Photo Chromic Micro Images), and results from the use of a dye rather than the traditional photographic chemicals which would be too "grainy" for such great enlargement. Ultraviolet light is used for the exposures, and the same light can be used to erase the images. However, it can be made permanent before distribution for library use to avoid accidental erasure. The ultra microfiches are covered with a tough plastic coating to minimize damage, and to prevent their being copied by contact printing.

The company is introducing ultra microfiche by way of package deals. Complete libraries of books are being offered in five areas: American civilization, Science and technology, Social sciences, Literature-Humanities, and Government publications. Each set or "library" contains 100 ultra microfiche transparencies, equal to about 700 books (roughly 300,000 pages). These are apparently "basic source" books in each area, selected by committees of experts and with reference to standard bibliographical aids. The five libraries cost approximately \$1,000 each, but when purchased together cost slightly less and two readers are included. Needless to say, these readers will introduce still another in the lineup of microreaders since at present, at least, they are not compatible with other microfiche readers.

Very similar to National Cash Register's offer is a competing development from Encyclopedia Britannica, the "Microbook Library Series." This uses a 3 by 5-inch microfiche with a reduction of up to 1/90th of the original and a capacity per fiche of 1,000 exposures, which should qualify it for the term "ultra microfiche," although the company does not use it. In this format EB offers a "Library of American Civilization," consisting of 12,000 of the "most significant" books on American culture published in the United States since 1914, together with an elaborate series of catalogs

and indexes, for just under \$20,000. Table readers, and "lap" readers are available at extra charge, and a reader-printer is promised. At this point, the "microbook" reader is not compatible with any other microfiche readers.

And so it goes with microforms. The librarian is offered more and more material in less and less space, but the library becomes cluttered with a bewildering variety of formats and machinery, and the cost is great. Standardization is tossed to the winds, and each company is a law unto itself. Nor is the end in sight. Laser beams and crystals promise even more fabulous reductions in size in the not too distant future. The cynical may well ask, do our libraries need all of these "significant books" of the past, or are many of them merely the titles that careful librarians have conscientiously weeded from their collections over the years? On the rare occasion when these little-used volumes are needed, might it not be cheaper to interloan or to purchase conventional microfilm copies, rather than to spend thousands of dollars to make them accessible in small libraries whose purposes are not and probably never will be scholarly. Our runaway technology provides the librarian with as many problems as it does solutions.

#### PART III: "SUPER LOOPS" — 8mm MOTION PICTURES

Motion pictures on 8mm film have been on the market for many years. Mostly for home use, they have recorded millions of growing babies and summer vacations. The 8mm film was an outgrowth of the 16mm motion picture. It enabled film makers to get twice as much on a 16mm film by photographing two parallel strips of motion picture frames side by side. In processing, the film was cut in two lengthwise and the halves spliced together end to end so that when a 50-foot roll or 16mm film was exposed in an 8mm camera, it became a 100-foot roll of 8mm motion picture.

These miniature movies had their shortcomings. The tiny picture on the film gave a small picture on the screen; and scratches, dust and other imperfections were even more noticeable than they were with 16mm.

It was definitely a "home movie" medium. But in the 1960's there was considerable interest in 8mm motion pictures as library materials. One reason was probably the aggressive marketing of 8mm versions of the old silent film classics—Chaplin, the Keystone cops, and the like—by Blackhawk Films of Davenport, Iowa. Some public libraries discovered that the appeal of these films was very strong, especially to disadvantaged children who are often lukewarm toward more conventional film fare offered by libraries. Many libraries tried 8mm film programs and the circulation of these films with varying success. There was even talk of an "8mm revolution" which would replace the old 16mm film libraries, but to date the latter have survived unscathed.

A second development in 8mm technology was the 8mm "loop" motion picture housed in a plastic cartridge, marketed vigorously by the Technicolor Corporation, a firm of English origins long famous for its color film. These "loop" films, as they were developed in the mid-60's, typically consisted of 50 feet of 8mm silent motion picture (generally in Technicolor, of course), running about four minutes or less, but with its end spliced to its beginning so that they could be played continuously. These loops of film were mounted in plastic cartridges and sold at a cost of about \$20 dollars. They were simply inserted in attractive, lightweight projectors and turned on. There was no "threading" and the films were "never touched by human hands."

Originally the device was marketed to industry for use in display advertising at booths at fairs, or in airports, and the like. But it soon caught on with educators and audiovisualists. Here at last was a motion picture packaged to do away with threading, and to allow the individual use of films at carrels in libraries. Loop films were an overnight success. Columbia University Teachers College even put out an 8mm loop newsletter on glossy paper; Ealing Film Company, a prestigious British firm, issued a brightly illustrated catalog of these film loops; and such major names in American educational films as Coronet, Bailey, Encyclopedia Britannica, and McGraw-Hill,

promptly followed suit. Thousands of these loops and their attendant projectors were sold, particularly to school libraries at a time when Federal funds were plentiful. The loops were generally sold in sets because in four minutes not much can be covered on a single film. Indeed, educators were quick to coin the word, "single concept films," to describe film loops—and just as quick to drop the term. Some film companies simply took their 20-minute films, cut them up into five 4-minute segments and resold them at \$20 dollars per segment.

No sooner had the first waves of 8mm loop films hit the library market when a third development in 8mm technology was announced: *super 8mm* motion picture film. These films were of course the same width, but by reducing the size of the sprocket holes, it was possible to enlarge the size of each picture by 50 percent. This allowed a somewhat larger and clearer picture to be shown on the screen. They were still very small, but by 8mm standards they were super movies. So all the 8mm loop films were reissued as super 8mm, with new projectors not compatible with the "old" regular 8mm projectors. As regular 8mm is being gradually "phased out," all of those loops and projectors so trustingly bought by libraries only a few years ago will have to be either traded in on super 8mm films and equipment or be retained to face a rapid obsolescence.

Furthermore, a natural outgrowth of the short, silent 8mm loop movies was the longer, sound 8mm loop movie. Here again Technicolor seems to have been in the lead. It has developed a super 8mm cartridge loop film which has an optical sound track photographed down one side of the film (just as most 16mm film has). The loop can project a sound motion picture up to 30 minutes long from a super 8mm sound loop projector. A number of well known educational film companies are also offering their educational films in this format. The sound loops are cheaper than 16mm film, but still quite expensive. A 10-minute sound color loop costs \$90; a 10-minute sound color 16mm film costs about \$120. Of course the great selling point is packaging, of not hav-

ing to handle loop film at all.

The inventive genius of American industry was, of course, not content to leave 8mm technology at this point. A second type of sound super 8mm film loop has been developed by the Fairchild Camera Company which has a sound track recorded on the film magnetically; that is, the film has a narrow band or iron oxide bonded to it on one side, just like the tape in a tape recorder. The magnetic sound track does have one advantage, that you can record your own sound on the film, erase and re-record—which you cannot do with an optical sound track.

The 8mm film loop has rapidly been accepted. NICEM provides a special index for them; the library of Congress catalog includes them along with 16mm motion pictures, so that LC cards are commonly available; and EFLA has published one or more indexes to 8mm films. The problem here as with so many other areas of audiovisual is the seemingly endless variety of formats of a single basic medium. In this case, 8mm motion pictures are today available in both regular and super sizes, in reel-to-reel, silent loops and two types of sound loops, each with its own model of equipment for the most part incompatible with other models. No wonder librarians are perplexed in the face of this clutter of materials and equipment, the frequent duplication of essentially the same subject matter in differing formats, and the complexities added to details of ordering, cataloging, classifying and shelving.

#### PART IV: "DO-IT-YOURSELF TV" — VIDEO CASSETTES

My last topic is video cassettes which have long been on the horizon—and largely still are. My information in this area tends to be second or third hand, but they are unquestionably a new development in audiovisual of great interest to libraries.

As I understand it, there are three video cassette devices which are incipient: The CBS-EVR system which is being widely advertised and is supposed to be in libraries in the spring of 1971; SONY's video cassettes, using video tape, to be introduced sometime in 1971; and RCA's Selectavision



—apparently still some years in the future.

Electronic Video Recording (EVR) was developed in 1968 by Dr. Peter C. Goldmark, President and Director of the Columbia Broadcasting System (CBS) research laboratories. He was also the scientist who developed the long-play microgroove record for CBS in 1948. EVR was released in the fall of 1970 for public view, and now in the spring of 1971 an extensive drive is being made by CBS and Motorola to introduce EVR to schools and public libraries. It is essentially a method of playing sound motion pictures through your home television set. This is accomplished by the use of a film cassette with magnetic sound tracks, designed to be used on a player which may be easily attached to any standard TV set, on which the sound and image appear on any channel which is not broadcasting.

The EVR film is an 8.75mm motion picture film. On this film is photographed a double row of black and white motion picture frames. The sound for each of these rows is recorded magnetically on narrow strips of iron oxide running along each margin of the film. Each cassette contains 750 feet of black and white film which plays for up to 50 minutes using both halves of the film. Color cassettes are also available, but on these the motion picture images occupy only one half of the film; the other half is used for "color coding," so that color EVR cassettes play for only 25 minutes. The film is sealed in 7-inch cassettes and is never handled by the user, and it has no sprocket holes, further minimizing the danger of damage.

The player transforms the visual images from the film and the sound track into electrical impulses which are fed into the TV set through terminals transforming them into an image on the picture tube and sound through the loud speaker. The film on the player may be rewound, slowed down, and will even show the pictures *frame by frame*. This last feature has peculiar significance to libraries because if books were photographed on this film page by page, (essentially a form of microfilm), and were then shown on the TV screen, they could be

read before the TV set by simply pressing a button when you were ready to turn the page. Each cassette has a capacity of 180,000 individual frames or pictures. It has been pointed out that this number of pages would be the equivalent of 500 novels of 50,000 words, or about 350 pages each on one EVR cassette. If this ever develops, and libraries start loaning *books* on EVR cassettes, it will be necessary to extend the loan time well beyond the traditional two weeks!

CBS does not manufacture the EVR players. These will be made by numerous manufacturers, of which Motorola appears to be first on the market with a player retailing at \$795. The players are themselves only a temporary expedient; in the future television sets will come with a cassette attachment built in so that the separate player will not be necessary. The film is processed by CBS and they are aggressively endeavoring to build up a library of films available so that there will be a demand for players on the part of schools and the general public.

Recent advertisements from CBS indicate that mostly "sponsored" or "free" films have been released for EVR cassettes. U.S. government films from a variety of sources, including the U.S. Information Agency, are also available. Perhaps the best known educational film company participating is Bailey Films, which is not surprising as it is owned by CBS. Whether this fare will prove attractive enough to many people to persuade them to buy the expensive "players" is problematical, but the potential is great, *if it works*. Some 95 percent of American homes have TV sets. Obviously CBS hopes by inventing this method of showing films on home TV sets to sell millions of cassettes and indirectly millions of players. To this end CBS has made a great play to get public libraries to stock these cassettes and at least one player. Presumably the idea is to provide convenient non-commercial free demonstrations for the public. If the cassettes are available at your friendly branch library for free loan, hopefully you will buy a player, and video cassettes will repeat the success of the photo-

graph record industry, with which CBS is thoroughly familiar. As of recent date the company announced that it had persuaded over 100 public libraries in the United States to install players and stock a collection of the cassettes. In preparation for this talk, I wrote to a friend in Virginia who is librarian of one of those 100 libraries to ask how the EVR project was coming. As of May 19, 1971, she wrote that neither the 100 cassettes (\$2,653.65) nor the teleplayer (\$695.00) had been received, but that they were ready for them, having purchased a "lovely color TV set" with 25-inch screen. When they are received they will be used only in the library on the library's equipment. This policy will be reconsidered when enough library users have players to create a demand for home use of the cassettes.

This is by no means the end of the video cassette story, of course. Both SONY and AVCO have announced video tape cassettes which sound like much more versatile devices, as not only will it be possible to play pre-recorded video tapes, but also to buy blank cassettes on which you may record your own favorite TV programs from your set for future replay. RCA's proposed "Selectavision" employs very advanced technology and is apparently some years away.

And so with video cassettes the librarian is once again faced with the same problem we have seen in the case of microforms and 8mm motion pictures. Within a space of three years or so he is to be confronted with three different types of video cassettes, each with its expensive and incompatible adaptors or players. In my opinion three types of video cassettes in three years is two types too many. Something of the same situation occurred when color TV was first announced. Various companies proposed differing types of equipment, but in that case the federal government required that whatever systems were adopted they must be compatible with one another and with black and white television sets then in use. Unfortunately controls of this sort no longer seem to be operative, and it is highly unlikely that the United States government in its present incarnation will act on behalf of

libraries or the public to curb the technological excesses of industry. Much is heard in library circles about applying "sanctions" in various areas. I wish A.L.A. carried enough weight to apply sanctions against new inventions and to keep them out of libraries until the competing manufacturers had decided upon optimum specifications and from them established national uniform standards. Technological change is inevitable, but its growth could be more rationally controlled.

#### CONCLUSION

Libraries today, particularly public libraries, face many problems. Income from various sources, especially federal, is declining. In some instances, numbers of registered borrowers, circulation of books, and other traditional indicators of library well-being are also declining. It is often difficult to pass bond issues and other legislation in favor of libraries. The pace of modern life—our "life style"—often seems hostile to essentially contemplative, quiet and sedentary pursuits such as reading. The impact of aural stimuli as heard on all sides in the blaring of radios, record players and tape recorders; and the even greater distractions of pictorial communication combined with the aural, as seen in movies and television, may be making strong inroads on the use made of the traditional book-centered library. In the past we used to say that the hurdle presented by equipment and machines inhibited the use of audiovisual media, but today perhaps that is true only for the librarians, while young library patrons and potential patrons are no longer cowed by equipment, indeed may even prefer their information mechanically shown, or read to them. And indeed with self-threading projectors and cassettes of all sorts, the operation of equipment is becoming more of a push button matter, hardly more difficult than putting on one's reading glasses.

The library and librarianship would appear to have two alternatives with which to face the future. One is to accept the role of the library as an institution specializing in the book, and a few other closely related formats, such as microforms. The librarian in this philosophy is looked upon as a

book specialist, dealing in manual processes largely, and in direct contact with the patrons as counselor and guide. Book collections would not be allowed to grow so large that the librarian could not personally know them and guide their users. The emphasis would be humanistic, personal—not mechanistic. Nor is this point of view to be derided. Indeed history has shown the library world—despite manifestoes, standards, and conferences to the contrary—to, in fact, tend very strongly in this direction. Books have a long head start over other media, they are often beautiful, regarded with great affection, and are packaged for optimum ease of use. They have dominated libraries and scholarship for centuries, and it is likely that the role of the book for the foreseeable future will continue to be “basic” (as A.L.A. used to say) in many areas of communication, and that the traditional library has a secure, if perhaps less dominant, future in the realm of communication. Some are quite willing to stay with the book and let other professions and institutions take on the computers and audiovisual materials.

The alternative philosophy does not deride the book, nor (except for a small but vocal lunatic fringe) foresee the end of the book-centered library. But it feels that the

library must change with the times. If it is to maintain its position in society, the library as an institution must integrate its collections to recognize the values of all media, and incorporate virtues of each to strengthen the whole. Adherents of this philosophy feel that if libraries and librarianship come to mean only book collections and bookmanship, the prestige and role of the profession we hold so dear can only gradually diminish in scope and influence. I think one branch of our profession, the school librarians, are perhaps beginning to see what I mean by this statement.

I am a “book librarian” and proud of it, but I adopt the second of these two philosophies because I feel in the long run it will be the best for the profession. I expect that most of us here are in this same boat, because it is this type of librarian who attends workshops and institutes. It is certainly the more difficult of the two choices, in the face of declining revenues and prestige, to advocate launching out into the unfamiliar, changing and expensive world of modern technology. At this point no one can say which way the library profession will go. Let us hope that whichever way is chosen, it will lead to an expanded role for librarianship in the future.

## Notes

A listing of the more important books and commercial concerns mentioned.

### PART I

*Harrison Tape Catalog.* N.Y., M. and N. Harrison. Bi-monthly since 1955.

*Learning Directory.* N.Y., Westinghouse Learning Corp. Annual since 1970-71.

The NICEM indexes. These are now published by NICEM, University of Southern California, Los Angeles.

*Index to 16mm Educational Films.* 3d ed. 1971.

*Index to 35mm Filmstrips.* 3d ed. 1971.

*Index to Educational Video Tapes.* 1971.

*Index to Educational Audio Tapes.* 1971.

*Index to Educational Records.* 1971.

- Index to 8mm Cartridges.* 2d ed. 1971.  
*Index to Producers and Distributors.* 1971.  
*Index to Ecology; Multimedia.* 1971.  
*Index to Educational Overhead Transparencies.* 2d ed. 1971.  
*Index to Black History and Studies; Multimedia.* 1971.

*Schwann Catalog.* Boston, W. Schwann, Inc. Monthly since 1948.

The "Serina" guides are published by the Serina Press, in Alexandria, Virginia. They are all to 16mm motion pictures and include the following:

- Guide to Films about Famous People.* 1969.  
*Guide to Foreign-Government Films.* 1969/70.  
*Guide to Government Loan Films.* 1969/70.  
*Guide to Military Loan Films.* 1969/70.  
*Guide to State Loan Films.* 1969/70.

Special Libraries Ass'n. Picture Division. *Picture Sources.* C. G. Frankenberg, ed. 2d ed. N.Y., 1964.

UNESCO. *Catalogue of Colour Reproductions of Paintings Prior to 1860.* (1968) and *Catalogue of Colour Reproductions of Paintings; 1860 to 1969.* (1969) N.Y., Columbia Univ. Press. Frequent editions.

U.S. Library of Congress. *National Register of Microform Masters.* Washington, D.C. Since 1965. A supplement to the *National Union Catalog.*

U.S. Library of Congress. Catalog Division. *Library of Congress Catalog: Motion Pictures and Filmstrips.* Washington, D.C. Quarterly with annual and quinquennial cumulations since 1953.

U.S. Library of Congress. Catalog Division. *Library of Congress Catalog: Music and Phonorecords.* Washington. Semi-annual with annual and quinquennial cumulations since 1953.

U.S. Library of Congress. Copyright Office. *Catalog of Copyright Entries. Part 6. Maps and Atlases.* Washington, D.C. Semi-annual.

## PART II

Library Resources, Inc. (Encyclopedia Britannica) 201 E. Ohio St., Chicago, Ill. ("Micro-book Library Series")

Micro Photo (Bell and Howell), 1700 Shaw Ave., Cleveland, Ohio, 44112.

Microcard Editions (NCR), 901 26th St., NW, Washington, D.C., 20037.

PCMI-NCR (Ultramicrofiche), Main and K Sts., Dayton, Ohio 45409.

Readex Microprint, 5 Union Square, New York, N.Y., 10003.

University Microfilms (Xerox), Ann Arbor, Michigan, 48106.

## PART III

Blackhawk Films (Eastin-Phelan Corp.), Davenport, Iowa, 52808.

Fairchild Camera Corp., 75 Mall Drive, Commack, N.Y., 11725.

Kone, G.A. *8mm Film Directory, 1969-70.* N.Y., Educational Film Library Ass'n., 1969.

Limbacher, J. L. *Directory of 8mm and 16mm Feature Films.* N.Y., Educational Film Library Ass'n., 1968.

Technicolor, Educational Division, 299 Kalmus Dr., Costa Mesa, Calif., 92627.

## PART IV

CBS-Electronic Video Recording Division, 51 W. 52nd St., New York, N.Y., 10019.