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Special Libraries, August 1975

Special Libraries Association

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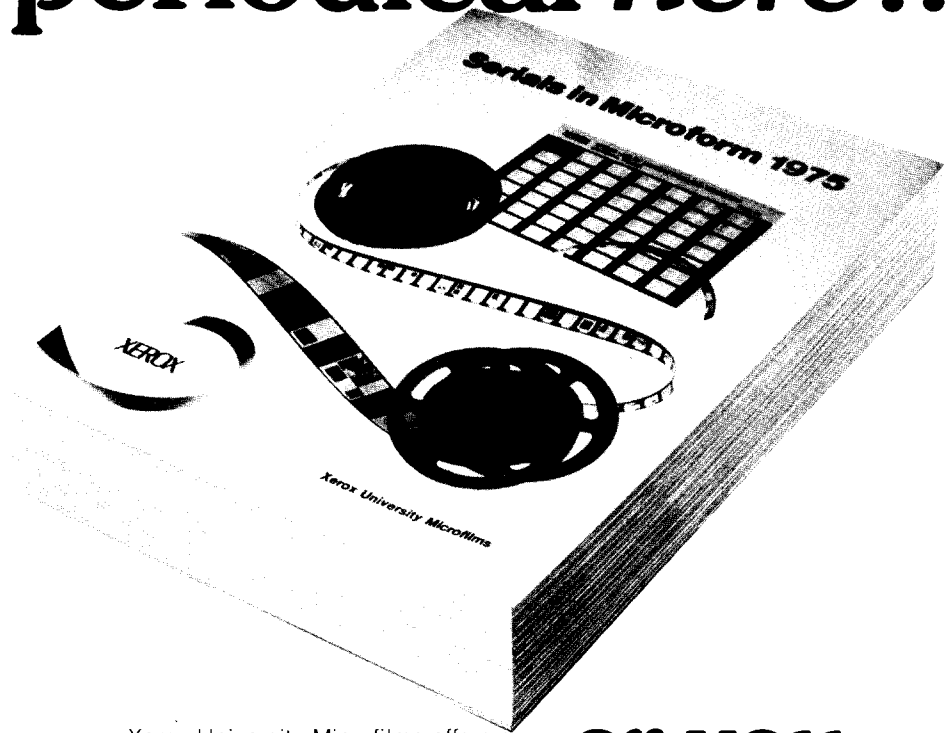
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August 1975, vol. 66, no. 8

- Information Retrieval
- Catalogs for Non-Print
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AUGUST 1975
VOLUME 66, NUMBER 8

	Letters	8A	
The JPL Library Information Retrieval System	351		Josephine Walsh
A Computer-Produced Catalog for Non-Print Materials	357		Bethe Lee Moulton William I. Wood
Very High Level Programming Languages	363		Miles A. Libbey
Criteria for Journal Selection	367		K. Subramanyam
Cataloging and Classification of Exhibition Catalogs	372		Lucy Chao Ho
Pollution in Lake Erie 1872-1965	378		Robert M. Ballard
Videotape—A Library Communications Tool	383		Loretta J. Kiersky
Looking Over Our Shoulder in the Orient	386		Chester S. Williams

SLA News

SLA Election Returns	389	Copyright Hearings	389
Call for Papers 1976	11A		

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Vistas

Washington Letter	401	Reviews	404
Coming Events	402	Pubs	406
Placement	16A	Index to Advertisers	16A

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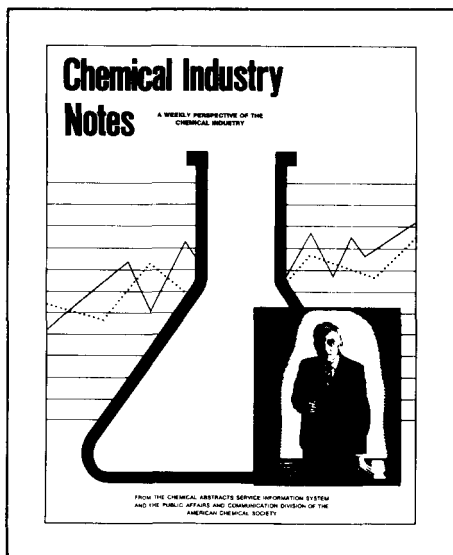
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LETTERS

Books Wanted

This letter asks you to choose one good book from your collection and send it to Santa Fe. Let me explain.

I have just returned from visiting the Institute of American Indian Art (I.A.I.A.) as an evaluator of their program. The one resource which is so important and in need is their library. The problem is not that they lack space or a trained librarian, but that they *only have about 300 art books*. Personal collections often exceed this, both in quality and quantity. It is a shame that this two-year school, which is trying to become accredited to offer an Associate Degree, has so small a resource for its students.

The I.A.I.A. in Santa Fe is the only art school in the country especially for Indians. It is operated by the Bureau of Indian Affairs (B.I.A.). Students attend tuition-free. The I.A.I.A. has very high admission standards, a vital curriculum, devoted faculty and administration, and an excellent physical plant.

Art produced at the I.A.I.A. is rooted in the only indigenous culture of our country, an old culture which spans centuries prior to the founding of our nation, centuries prior to the so-called "discovery of the New World." The continuing tradition is important to all artists as a visual language in which we celebrate life and grow as individuals. Students at the I.A.I.A. are searching, as we all search, for that individual expression which is uniquely theirs. Their work is on a high level, as evidenced by their studios and museum shows, and has been acclaimed accordingly.

It is my belief, as an artist and educator, that other artists would share my concern and want to help. Let each of us select one good book from our personal library and send it to Santa Fe.

Since the need is so acute, the response can have reverberations beyond the fact of the gift itself. For instance:

1. The students would have a permanent resource from which to learn and grow as artists.
2. Received books would boost morale, since the students would know that other artists care enough to give of themselves.
3. The B.I.A. would be encouraged to give higher priority to educational needs of the Indians.

4. The students would be better qualified to continue their educations at other professional schools of art.
5. The books would be a start toward making the library acceptable for accreditation.
6. Our help would attract other funding toward a more comprehensive library.

I ask you to join with me in making available one book (or more) for the I.A.I.A. library (Santa Fe, New Mexico 87501). Books can be mailed 4th Class at a special low rate. If you are connected with an institution, please encourage your library to send their "discards" (books in duplicate). Please do what you can and pass on the request to other interested persons. Thank you.

Thomas Morin
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P.S. If you would like to know which books are most needed, you may telephone 505-988-6266 or write to: Evelyn Fredericks, Librarian, I.A.I.A., Santa Fe, New Mexico 87501.

Engineering Data

The article by Robert Ting in the March issue of *Special Libraries* [66(no.3):140-142] describes a workshop situation for engineers at the University of N.Y. at Buffalo. Under the conclusions regarding this workshop, it was indicated among the seven conclusions that there was no comprehensive data base for engineering literature available and therefore engineers as a group did not appear to be enthusiastic about computer searches. I was somewhat surprised at this particular conclusion, due to the fact that there is a comprehensive engineering data base available for engineering literature entitled COMPENDEX.

This data base is on-line through Lockheed Corporation and the Systems Development Corporation and has had wide acceptance throughout the engineering community. There may be responsible and reasonable evaluations of the coverage provided by this data base, or the timeliness of this data base, or the comprehensiveness of this data base, but certainly there is one available and is being used quite widely.

I am sorry that we did not have the opportunity to discuss with Mr. Ting the content of this data base before the workshop

and perhaps provide, should he have desired it, some information about it.

The article is well written and well understood, but I do believe that it is deficient in making this evaluation.

John E. Creps, Jr.
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Koenig Response

In response to Mr. Anson's reply in the May/June 1975 issue of *Special Libraries* [66(nos.5/6):235] to my piece on "Expediting Book Acquisitions" which appeared in the December 1974 issue of *Special Libraries*, I would like to make the following points:

1) Mr. Anson ignores the fact that the virtues of the arrangement to Pfizer includes not only telephone ordering, but physical delivery of the book or books ordered. I note that Mr. Anson makes no mention of any such service from his firm.

2) Mr. Anson claims that Pfizer's investment of \$1,000 is unjustified. The cost to Pfizer at, let us say, a 10% cost of capital is \$100 a year, a sum whose equivalent is perhaps 15 hours per year of non-professional time, or approximately 20 minutes per week. Pfizer saves substantially more time than that by the elimination of the need for written order confirmation, which Mr. Anson concedes is required by the conventional approaches he describes.

In short Mr. Anson focuses on one of the three benefits to Pfizer of the procedure, and trumpets the fact that his firm also offers that benefit, while he totally ignores the other two benefits. Read in isolation, his reply is a very effective marketing ploy. Read in context it reveals that he offers no similar degree of service.

Michael E. D. Koenig
Institute for Scientific Information
Philadelphia, Pa. 19106

Borrow!

Mr. Anson's letter in the May/June 1975 issue of *Special Libraries* [66(nos.5/6):235] raised another question in my mind, namely the practice of granting a library discount for one or two books ordered in response to the immediate need of a library user. The only time I can think of when a special librarian needs to build a collection is when his or her employer is going to carry out a project and the library collection is weak in that subject area. Then, the dis-

count is justified in the special library setting.

In the more usual situation of ordering one or two books, I would favor interlibrary loan to take care of the immediate request. The library user would then give the librarian his or her opinion as to whether purchase is warranted. If it is, the librarian can put the desired title(s) on the order sent periodically to the jobber. The library would thus save substantially on purchase, processing, and overhead costs of books that gather dust.

To facilitate the interlibrary loan, some sort of union catalog would be needed. Not too many years ago, major New Mexico libraries had the use of NEMEISYS (New Mexico Information Systems) for this purpose. A requisitioner needed the LC catalog card order number. As a supplement or substitute, SLA members in the same Chapter and Division could exchange acquisitions lists. The lists can be photocopied from main entries, laid out to fit an 8½ × 11 in. space. Then, a receiving library can have a file of what is available in similar libraries in the geographic area.

When I was a special librarian, I would borrow from the New York Public Library, or the library of the New School for Social Research, where I was working on my M.A.

Jean E. Dulaff
Albuquerque, N.Mex.

Unexpectedly Historical

The January 1975 issue of *Special Libraries* has just arrived here. We are flattered that an illustration of Auckland University Library was used to accompany Margaret Ross's article on map collections in India, Australia and New Zealand. However, the New Zealand Embassy really should have indicated that the photograph that they supplied was an historical document! It was taken in the former central library sometime around 1963 and bears no resemblance to our present premises.

Margaret Ross is concerned about the lack of information on map collections in the area and a recent statistical exercise enables me to up-date some of the figures she gives for New Zealand. Map collections at the end of 1974 were: University of Auckland: 24,785; University of Waikato: 53,397; University of Otago Library: 12,325.

Peter Durey
University of Auckland
Auckland, New Zealand

Announcing **2** MAJOR CUMULATIVE INDEXES and RETROSPECTIVE INFORMATION RETRIEVAL TOOLS

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Subject headings as index terms have been primarily extracted from titles through the unique program, by making use of a digital computer, then unified and controlled by specialists. All indexed articles are given an average of 3-4 subjects to a title, so that an identical article appears 3-4 times in the index under the different subjects.

Subject headings found in the index are based on the terms appearing in the title of respective articles. Thus, this is a familiar reference tool for the user who is engaged in the field concerned. In addition, with subject cross-references given abundantly he will be able to search more efficiently.

Subject headings and cross-references are arranged in alpha-numerical order by the 'word by word' basis. Abbreviated words and Greek letters, however, are put in higher order according to internal arrangement of the computer. Titles (in full), type (letters to the editor, comments and addenda) and bibliographic locations are listed under the heading. Does not include an author's index.

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The JPL Library Information Retrieval System

Josephine Walsh

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■ The development, capabilities, and products of the computer-based retrieval system of the Jet Propulsion Laboratory Library are described. The system handles books and documents, produces a

book catalog, and provides a machine search capability. Programs and documentation are available to the public through NASA's computer software dissemination program.

THE Jet Propulsion Laboratory (JPL) is a research and development center operated by the California Institute of Technology for the National Aeronautics and Space Administration (NASA). The primary missions of the laboratory are unmanned planetary exploration, exemplified by the current Mariner 10 mission to Venus and Mercury, and future space project research. The laboratory is also active in technology transfer programs in which technology developed for the space program is applied to problem areas in the public sector, with particular emphasis on transportation, environment, energy, health care, and law enforcement.

Among the technological contributions of the space program have been the development and application of information systems in support of space research projects. The JPL Library retrieval system is one example of an information system developed under the space program. The system is applicable to any library, and the programs and documentation are available to the public through NASA's computer software dissemination program (1).

Background

The JPL Library developed its first computerized book catalog in 1961. The catalog provided access to the book and document collections by subject, title, personal author, and corporate author. However, no provision was made for access by report number or contract number; and there was no retrieval capability. Although the programs were modified insofar as possible in an attempt to correct these deficiencies, the system's limitations did not allow for all the desired changes. Accordingly, a new system incorporating the added capabilities was designed and put into operation.

The current Library Information Retrieval System (LIRS), which began operation in January 1969, produces a book catalog and provides machine searches on demand. The system is simple, flexible, and has proven its effectiveness in six years of operation.

The size of the data base is currently 42,000 accession records. Approximately 8,000 records are entered in the system annually. The problems inherent in con-

verting the older files were avoided by the decision not to convert. This decision was based primarily on the JPL Library's experience that the heaviest use of technical literature is in the first five years after publication. Even though it is necessary to consult the closed book catalog for material received between 1961 and 1968 and manual card files for material received prior to 1961, it was felt that the expenditures in time, personnel, and funds necessary to convert these files would not be justified.

One of the primary advantages of the LIRS is the provision of a single source for access to both books and documents in the collection. Traditionally, libraries have treated documents differently from books and have developed separate manual or machine files for access to these publications. The user, with an interest in a particular subject, must consult both book and document files to assure complete subject coverage. The use of different subject headings and corporate author entries in these files can complicate the retrieval effort. Consolidation of book and document files into one system using a common thesaurus and corporate author authority has greatly facilitated reference and retrieval services in the JPL Library.

System Authorities

Throughout the development of the LIRS, the approach has been to make use of national cataloging authorities as much as possible. Descriptive cataloging for the system follows the *COSATI Standard for Descriptive Cataloging of Government Scientific and Technical Reports* (2).

Subject indexing is based on the LIRS Thesaurus which currently contains over 10,000 postable terms and 1,700 cross references. The Thesaurus also indicates the frequency of use for each term. This feature provides a means of vocabulary control by indicating when a term is being used excessively in indexing so that more specific terminology may be introduced. The frequency count also aids in determining whether or not a computer

search using a particular term is justified. Primary authorities for terms added to the LIRS Thesaurus are the Engineers Joint Council's *Thesaurus of Engineering and Scientific Terms (TEST)* (3) and the *NASA Thesaurus* (4). Since the structuring of terms in *TEST* and the *NASA Thesaurus* is referred to as needed, hierarchical structuring of terms is not included in the LIRS Thesaurus. Other specialized thesauri such as *Medical Subject Headings* (5), *Environmental Terminology Index* (6), *Thesaurus of Water Resources Terms* (7), etc., are consulted as needed for more specific terminology in fields other than aerospace science and technology.

The corporate author authorities for the system are the *NASA Corporate Source Authority List* (8), and the *DDC Source Header List* (9). If the corporate author is not listed in either of these authority lists, the entry is established according to the COSATI Standard cited above (2).

Input

Three forms are used for entering data in the LIRS. The layout of the forms corresponds to the card format established for the system, with each data element identified by an alpha code.

An LIRS—Additions form (Figure 1) is prepared for each book and document entered in the system. Data elements are shown in Table 1. Although most of the data elements are self-explanatory, some of the sub-elements of the Accession Record need elaboration. The accession or call number sub-element (A 1) includes a notation of format for material that is filed in separate collections, i.e., (M) for microfilm, (MF) for microfiche and (OS) for oversize. The sub-element for inclusive dates (A 3) is the field in which the dates of a symposium or the dates of the reporting period are entered. The type code (A 4) is a two-letter code which provides the capability of extracting separate reports on documents only, books only, or specific types of documents such as internal reports. This field has been used to produce separate author and sub-

Figure 1. LIRS—Additions Input Form

74301901										PREPARED BY										LIT										DATE										KEYPUNCHED/VERIFIED										DATE																			
CONTROL NUMBER (DUPLICATE IN EACH CARD)										ACCESSION NUMBER										DATE										FROM DATE										TO DATE										LVP										DISP									
ACCESSION										HD 9545 U59 1974										U										74										RF 30																													
TITLE										INVENTORY OF CURRENT ENERGY RESEARCH AND DEVELOPE																																																											
										NT. 3 VOLS. (GPO)																																																											
AUTHOR EDITOR																																																																					
SOURCE CODE AND REPORT NUMBER										SI 230008NL-ETS-73-69																																																											
										309500																																																											
CONTRACT NUMBER										NI-7405-ENG-26																																																											
SUBJECT TERMS										ENERGY SOURCES																																																											
										RESEARCH AND DEVELOPMENT																																																											
										FOSSIL FUELS																																																											
										SOLAR ENERGY																																																											
										GEOTHERMAL RESOURCES																																																											
										WIND POWER UTILIZATION																																																											

Table 1.

Card Code	Data Element
A	Accession Record 1. accession number or call number 2. publication date 3. inclusive dates 4. type code 5. discipline code
B	Title
C	Subtitle/Series title
D	Author/Editor
E	Corporate Author Code/Report Number
F	Contract Number
G	Subject Terms
H	Additional Authors/Editors
I	Subject Term Cross References
K	Corporate Author Description

ject indexes to internal reports and a separate catalog of the reference collection. The discipline code (A 5) is a two-digit code based on the COSATI subject categories (10). Although this field is not used at present to extract reports, it could be used for an SDI (Selective Dissemination of Information) service. The Title data element (B) also includes the edition, pagination, and publisher.

The second input form, the LIRS—Changes, is used not only to correct or delete data previously entered, but also to enter additional data not provided for

on the LIRS—Additions form. Additional data entered on this form includes subtitles and series titles, authors if the number exceeds four, corporate authors and report numbers if the number exceeds four, subject terms in excess of ten, and subject term cross-references. The change capability is used to: correct input errors, change call numbers as the book collection is reclassified, and delete records of superseded or destroyed material.

The third input form, the LIRS—Source Description, is used to establish the entry for corporate authors. A six-digit code is assigned to each corporate author the first time a book or document is received from a new source. The use of a code for entering the corporate author in the system simplifies subsequent input of this data element, assures uniformity in the corporate author citations, and provides for more efficient machine processing of this data.

Output

The system produces fifteen reports. Four of the reports comprise the book

Figure 2. LIRS Subject/Title and Author Catalogs

B379-06 12/20/74 LIBRARY INFORMATION RETRIEVAL SYSTEM - SUBJECT TERM AND TITLE	PAGE 2
SUBJECT TERM / TITLE	TYPE-
ABBREVIATIONS DICTIONARY. 4TH ED. 426P. (AMER. ELSEVIER)	
ACC # PE 1693 D467 1974	1974
ABBREVIATIONS FOR TERMS USED IN ELECTRONICS. VAR. PAG. (STWP)	
B379-07 12/20/74 LIBRARY INFORMATION RETRIEVAL SYSTEM - AUTHOR & EDITOR / SOURCE	PAGE 1
AUTHORS AND EDITORS / SOURCE	TYPE-
ABBATIELLO, A.A.	
ALTERNATIVES TO WRITTEN TESTS. 28P.	
ACC # 74-003179	1974

catalog: subject and title, personal and corporate author, report number, and contract number. Three of the reports are authority lists for the system: the thesaurus, a numeric listing of corporate author codes, and an alphabetical list of corporate author entries. The Master Record is the shelf list for the system, and the Retrieval Report is the output in response to a search request. The remaining reports are records of input transactions, file count reports, and internal control reports.

Although the system can provide separate printouts for subject, title, personal author, and corporate author, the combination of the subject and title in one alphabet and the personal and corporate author in one alphabet was selected for the book catalog. Each entry in the subject/title and author catalogs includes the first 85 characters of the title, the accession or call number, the publication date, and the report number (Figure 2). The report number and contract number printouts are alphanumeric listings together with corresponding accession or call numbers and corporate authors.

To reduce computer processing time, the LIRS book catalog is maintained in two compilations: the current year's records, which are cumulated monthly, and the history file. In the interim between monthly updates of the current year's book catalog, the library's weekly announcement bulletin provides access to current accessions. At the end of each year, the current year's records are merged with the history file and all sections of the catalog are reprinted.

The LIRS retrieval capability provides a means of searching the data base for relevant books and documents using specified combinations of subject terms and Boolean (and/or) logic conditions. Subject searches are initiated by preparing an LIRS—Search form [Figure 3(a)]. The search request (in this case on privacy and computers) is structured as a logical formula using the terms of the LIRS Thesaurus. A maximum of ten searches per computer process may be made using a maximum of nine terms per search. The Retrieval Report lists

Figure 3(a). LIRS Search Input

AUGUST 1975

PREPARED BY																							EXT.	DATE	KEYPUNCHED/VERIFIED																		DATE																								
5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66						
QST NO.	SE O	FROM CONTROL NUMBER										TO CONTROL NUMBER										CONDITION										QUESTION TITLE																																			
01		73.000000										74.999999										A + B + C / D + E F G H I										PRIVACY & COMPUTERS																																			
01	A	COMPUTERS																																																																	
01	B	DATA BASES																																																																	
01	C	DATA SYSTEMS																																																																	
01	D	PRIVACY																																																																	
01	E	SECURITY																																																																	

+ = OR
/ = AND

Figure 3(b). LIRS Retrieval Output

ACCESSION NUMBER	SEC	DATE	PERIOD COVERED	DISCIP
AD-768304 (MF)	U	08 / /73		32
TITLE- ADP DATA SECURITY AND PRIVACY. PROCEEDINGS OF CONFERENCE ON SECURE DATA SHA RING. 226P.				
REPORT NBR- NSRDC-4130				
SOURCE- NAVAL SHIP RESEARCH AND DEVELOPMENT CENTER, WASHINGTON, D. C.				
REPORT NBR- AD-768304				
SOURCE- NATIONAL TECHNICAL INFORMATION SERVICE, SPRINGFIELD, VA.				
SUB TERM- PRIVACY				
SECURITY				
DATA SYSTEMS				

355

complete references in accession/call number order [Figure 3(b)].

Computer System

The LIRS initially utilized an IBM 360 but currently operates on an IBM 370/158. Maximum core requirements are 150K. The Master File is maintained on standard 9 track magnetic tape and is updated in a batch mode. Programs are written in COBOL-F.

In a continuous effort to upgrade the system and its products, a number of modifications and refinements have been made to the LIRS. Input forms were re-designed for greater efficiency, the content and format of the book catalog reports were improved, and efforts are currently being directed toward automating the production of the weekly announcement bulletin. Documentation is currently being revised to incorporate all changes made to date.

Acknowledgments

The work described in this paper was performed under NASA contract NAS 7-100.

The author expresses appreciation to the JPL Administrative Computing Section for the system design and development. Particular thanks are due Charles Schober for his invaluable contributions to the project in the system analysis.

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4. U.S. National Aeronautics and Space Administration / *NASA Thesaurus—Alphabetical Update*. Washington, D.C., 1971. (NASA SP-7040, N72-15923)
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A Computer-Produced Catalog for Non-Print Materials: Its Application in a Health Sciences Library

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■ A computer-produced catalog, *Audiovisual Aids for Health Science Education: a Catalog of Materials at Case Western Reserve University*, was developed at Cleveland Health Sciences Library to

provide a rapid cataloging system for a newly established audiovisual department. The need, design, and utility of the catalog are discussed.

LIBRARIANS play a central role in providing access to the educational resources of academic institutions. The development of curricula dependent on non-print materials has required that library services be extended to encompass these materials. One key to responsive non-print services is an organized, accessible collection. A computer-produced catalog of non-print materials was developed at the Cleveland Health Sciences Library (CHSL). CHSL serves faculty and students of Case Western Reserve University (CWRU) and health-related institutions in northeast Ohio. A de-

scription of this catalog and its role in the growth of the non-print services of CHSL will permit others to consider the pros and cons of a similar approach.

The Need for an Alternative

The Audiovisual Department of CHSL was established in June 1971. At that time several hundred non-print items including audiotapes, films, filmstrips, slide sets, videotapes, and multi-media kits were transferred to the library from various locations. New materials were being acquired at the rate of 30 per month. An efficient and accurate cataloging system was urgently needed to access this rich educational resource. Initially the main card catalog seemed the logical bibliographic tool. It soon became evident, however, that there were limitations in using the card catalog for the non-print collection.

Bethe Lee Moulton was with the Cleveland Health Sciences Library. She is now with the Newton-Wellesley Hospital, Newton Lower Falls, Mass. William I. Wood was with the U.S. Public Health Service. He is now a student at Harvard University, Cambridge, Mass.

1) Neither time nor staff was available to maintain the bibliographic standards of the card catalog while responding to the immediate need for an inventory. Descriptive cataloging which meets the standards recommended for non-print materials (1, 2, 3, 4) is time-consuming. To identify the elements such as exact title, producer, credits, length, and content may require viewing the entire program. The assistance of a subject expert may be needed to assign indexing terms or prepare the content summary. Non-commercially produced materials proved to be especially time-consuming.

2) The development of a new department with untried policies and procedures required a flexible cataloging system. It was expected that modification of cataloging would be required as the department matured.

3) Non-print materials are frequently modified. For example, a videotape can be erased or edited and a slide set can be expanded. Staff was not available to update the card catalog to reflect such changes.

4) The card catalog was located at a distance from the Audiovisual Department making its routine use cumbersome.

5) A growing demand for a distributable list of non-print materials could not be satisfied by the card catalog.

The need for a flexible, distributable inventory led to the consideration of a computer-produced catalog. The availability of an interested computer programmer and of computer time gratis to the library stimulated the development of an experimental catalog designed to overcome the limitations of the main card catalog.

1) Relaxed bibliographic standards would be applied for a rapid inventory of the non-print collection.

2) The computer program could modify the design of the catalog to fit the changing requirements of the department.

3) Any change in cataloging information made only once would appear automatically throughout the catalog.

4) Multiple copies of the catalog could be printed for distribution.

Figure 1. Assignment of Cataloging Elements to Columns on Computer Cards

Card No.	Column	Cataloging Element
1	1-20	Call number
	21-79	Title
	80	Card sequence number (1)
2	1-20	Call number
	21-35	Medium
	36-45	Format
	46-55	Length
	56-57	Sound (SD) or silent (SI)
	58	Color (C) or black & white (B)
	59-60	Date (last two digits only; ND for no date)
	61-79	Comments
3-9	80	Card sequence number (2)
	1-20	Call number
3-9	21-49	First subject heading
	50	Blank
	51-79	Second subject heading
	80	Card sequence number (3-9)

Design of the Catalog

The final design of the computer-produced catalog evolved from the interaction between the programmer and the librarian. As a result, the design incorporated the following features to meet the needs of the Audiovisual Department.

First, cataloging information for each item is entered into the computer only once using a set of Hollerith cards. Each cataloging element is assigned to card columns as shown in Figure 1. A sample card set for one item is shown in Figure 2.

Second, the computer program is written to sort the items based on specific cataloging elements. For example, to prepare the subject index, the computer program sorts the items based on the assigned subject headings. While entered only once, each item will appear as many times in the catalog as required. The item shown in Figure 2 has two subject headings; it will appear under each of these subjects.

Third, the catalog is printed in the following four parts: a) An introduction explaining the organization of the catalog and loan policies of the Audiovisual Department. b) An alphabetical list of the subject headings and cross-references. c) A subject index including titles and descriptive information for each item (Figure 3). Since it was expected that this section of the catalog would be the most

Figure 2. Sample Input Card Set for One Non-Print Item

WE346T784	ARTHRITIS RHEUMATOID	JOINTS	3
WE346T784	FILM	SUBMMF 5MIN	SDC70UPJOHN 70 SERIES 2
WE346T784	TREATMENT OF ARTHRITIC JOINTS		1

Figure 3. A Portion of the Computer-Produced Subject Index

*SUBJECT CALL NUMBER MEDIUM	TITLE FORMAT	SOUND	COLOR	LENGTH	DATE	COMMENTS
*MITRAL VALVE (CON'T.) WG262F981 FILM	FUNCTIONAL ANATOMY OF MITRAL VALVE 16MM	SD	C	32MIN	1967	CRILEY
*MODELS THEORETICAL LB174A111S VIDEOTAPE	AACTE WORKSHOP-SIMULATION 1IN AMPEX	SD	B&W	45MIN	ND	CRUICKSHANK
*MONGOLISM WM300D748 VIDEOTAPE	DOWNS SYNDROME INTERVIEW WITH PARENTS OF CHILD WITH 1IN AMPEX	SD	B&W	40MIN	1969	DELA MOTTE
WM300D748T VIDEOTAPE	DOWNS SYNDROME INTERVIEW WITH TWO TEENAGERS 1IN AMPEX	SD	B&W	14MIN	1969	DELA MOTTE
WM300M743 VIDEOTAPE	MONGOLOID CHILD PSCHOLOGICAL TESTING INTERVIEW WITH PARENT 1IN AMPEX	SD	B&W	32MIN	1969	KENNEL
*MONITORING SYSTEMS WY150PC183 KIT	CENTRAL VENOUS PRESSURE MONITORING				1970	TRAINEX

Figure 4. A Portion of the Computer-Produced Title Index

ITEMS (By TITLE) (CONT'D.)

WG200C267	CARDIOVASCULAR COMMITTEE PHASE II LABS I-VI					
WG200C267	SLIDES 2X2	73SLIDES				C71ROBERTSON
WG200C267	HEART DISEASES					HYPERTENSION
WG200C267	ARTERIOSCLEROSIS					CORONARY DISEASE
WG200C267	VASCULAR DISEASE					RHEUMATIC HEART DISEASE
WG200C267	ENDOCARDITIS BACTERIAL					
WY150SN152	CARE OF THE PATIENT IN A CAST					
WY150SN152	KIT					68TRAINEX
WY150SN152	NURSING CARE					CASTS SURGICAL
WY150SN148	CARE OF THE PATIENT IN TRACTION					
WY150SN148	KIT					68TRAINEX
WY150SN148	TRACTION					NURSING CARE
WI520C277	CARING FOR THE PATIENT WITH A COLOSTOMY					
WI520C277	FILM 8MMF	22MIN				SDC69BARCKLEY
WI520C277	COLOSTOMY					NURSING CARE
QU125C393	CELL BIOLOGY ENERGY					
QU125C393	SLIDES	3MSD/SLIDE	28SLIDES			70NEET
QU125C393	METABOLISM					ADENOSINE TRIPHOSPHATE

heavily used, format features to increase readability (such as page headings and spacing between cataloging elements) were incorporated into the computer program. d) A title index including titles and descriptive information for each item (Figure 4). The title index is virtually a copy of the cataloging information as entered into the computer on Hollerith cards.

The program was written in FORTRAN to run on an IBM 360/370 computer system. The catalog is printed on 11 in. × 14 in. computer paper. The printed page is proportioned so that each page may be photoreduced to three-quarter size and printed on 8½ in. × 11 in. paper. Four hundred copies of the catalog were produced by off-set printing for distribution.

Evaluation of the Catalog

The catalog must be evaluated from two points of view. First, did it meet the requirements for which it was designed? Second, how did it affect the management of non-print materials?

The first objective of the catalog was to provide a complete inventory with title and subject access to a rapidly growing collection containing many items of unknown value. The catalog proved to be a flexible bibliographic tool which kept pace with operational changes.

The second objective of the catalog was to provide information about non-print resources to a large group of users. The widespread distribution of the catalog greatly increased the visibility of the Audiovisual Department within CWRU and to other health-related institutions.

For example, the catalog alerted faculty and students to the resources and services available. Some copies of the catalog provided a reference tool at curriculum planning sessions while other copies provided an extension of the Audiovisual Department into the offices of curriculum coordinators.

The catalog was also available to local health-related institutions to permit the selection of materials for interlibrary loan. Thus a new dimension of service

was added to those offered by CHSL as a resource library.

In addition, multiple copies of the catalog provided a tool for those library staff members who were less familiar with the non-print collection. The usefulness of the tool was enhanced because CHSL was divided between two locations.

Easy access to the collection provided by the catalog greatly increased the circulation of non-print materials. This expanded use was not without some accompanying management problems. These problems which are not unique to non-print materials fell into three categories—indexing, user citation, and distribution.

Indexing. MeSH (5) was selected as a subject authority for indexing to be consistent with CHSL practices and to be compatible with indexing which might be done by the National Library of Medicine. Subheadings were not used in the computer-produced catalog. In applying MeSH the lack of specific terms in the fields of dentistry and nursing forced the indexer to use broad headings such as *Dental Instruments* and *Nursing Care*. As many items appeared under these headings, the index lost its effectiveness. MeSH lacks sufficient specificity for indexing techniques and instruments adequately.

Another problem for the indexer was to determine the depth to which to index. Non-print materials are not easily browsed, accentuating this problem. Often a specific item such as a line drawing of a cell membrane, a specific skin lesion, or the recording of a specific type of heart murmur was requested. To retrieve a single slide from a set or a segment from a film required in-depth indexing. If a subject was assigned for each concept visualized, a cumbersome quantity of headings would result. In contrast to specific requests, there were also many requests on broad subject areas, for example hematology or nervous system diseases. Faculty preparing for lectures and students reviewing for examinations requested materials on such broad subject areas. These users were taught to consult many specific headings.

Thus, the subject index based on MeSH failed to serve needs at either extreme of the spectrum without intervention of the librarian.

User Citation. User citations of non-print materials were frequently insufficient for material identification. This problem stems from the use by faculty and students of colloquial names for non-print materials in place of proper bibliographic citations. The education of users regarding the proper citation of non-print materials was undertaken but was not as effective as desired. To compensate for incorrect citations, the Audiovisual Department developed extensive cross-reference files on cards for colloquial titles, faculty and course names, credits, authors, and other miscellaneous information used to identify materials.

Distribution. The catalog was sold at production cost to institutions outside of CWRU. This distribution raised numerous questions about the role of the audiovisual component of a resource library. While the catalog was distributed primarily to share the cataloging approach and specific cataloging information with other libraries, these libraries requested non-print materials for interlibrary loan. These requests forced the library to establish new loan policies. For example, the catalog was the first public description of slide sets and videotapes produced at CWRU. As outsiders became aware of these materials, it was necessary to decide whether to make them available outside the university.

Limitations of the Catalog

The catalog was developed to provide a quick-and-dirty inventory for the Audiovisual Department of CHSL. The success of the catalog as a support of non-print services was evident in the growth of the department to an extent that more sophisticated cataloging was required. Specifically, the computer-produced catalog had the following limitations.

1) Additional descriptive cataloging including notations about the producer,

playback speed, audience level, and location was needed.

2) Content summaries were omitted from the catalog to save time and space. Since browsing is impractical, the user must rely on a description to select non-print materials.

3) A cross-reference index which would permit access by authors, credits, series titles, and other identifying information was needed. The card cross-reference file mentioned above was not an integrated part of the catalog and was consulted separately for this type of access.

The need for sophisticated cataloging could be met by the main card catalog. It must be pointed out that the development of the computer-produced catalog had supplemented rather than replaced the use of the card catalog. As soon as complete descriptive cataloging including content summaries was available, non-print materials were entered into the card catalog. This practice supported the concept of an integrated collection, alerted traditional library users to the presence of non-print materials in the library, and provided back-up to the computer-produced catalog.

In June 1973, the computer-produced catalog and the card catalog were being used concurrently to serve the growing needs of the non-print collection. At that time, the new audiovisual librarian elected to concentrate on the card catalog without maintaining the computer-produced catalog. This practice is at variance with the authors' belief that the computer-produced catalog best fills the requirements for a rapid, flexible system for the preparation of distributable lists of non-print materials.

Costs

The cost of this project to CHSL was minimal due to the donations of all programming and computer time. Direct computer and printing costs for production of the catalog in 1972 are estimated as follows.

Programming. Approximately 40 hours were necessary to write the program and make it operational. This expense will

vary with the experience of the programmer.

Computer Time. A relatively large amount of computer time was used during program development. The cost of this development and production of the first edition of the catalog is estimated at several hundred dollars in computer time. Once operational, however, the program could be run to update the catalog for about \$50.00. These costs will vary widely with the efficiency of the program and the computer system used.

Keypunching. Keypunching costs may be estimated by calculating the number of items in the collection and assuming that four cards per item will be prepared. Costs will then depend upon the rate per card for keypunching and verifying.

Printing. The printed catalog was a 72-page, spiral-bound booklet prepared by offset printing. Each copy was sold for \$3.50 to recover printing and keypunching costs.

Conclusions

The computer-produced catalog stimulated the growth of the Audiovisual Department of CHSL by providing new dimensions of service. In addition to being an up-to-date inventory for the emerging department, it provided an interface between users and non-print materials at CWRU and at other health science institutions. Use of the catalog alerted library staff to problems which accompany non-print services in academic and resource libraries. As the department has grown and matured, user needs and expectations have changed. The computer-produced catalog provides

a sound foundation from which to continue building responsive non-print library services.

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WOOD

Very High Level Programming Languages (e.g., SNOBOL, COMIT) in the Special Librarian's Future

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■ Increasing availability of machine-readable material will increase needs for special libraries to use computers occasionally to extract selected material, prepare special search tools, reformat files, do special information processing jobs, etc. Principal alternatives heretofore useful (routine programming, outside systems, general file management packages) are often unavailable or unacceptable,

especially to smaller organizations. A little known alternative becomes increasingly attractive as costs of computer time, however obtained, decrease. A special subset of features of a powerful programming language, such as SNOBOL4 or COMIT II can be learned and used in a short time given appropriately focused tutorial material.

THE AMOUNT of factual information available in machine-readable form is increasing rapidly—MARC II and Census, for example. As a result, there will be increasingly frequent needs for special librarians to use computers to process information. This paper will review some of these uses, then consider the principal alternatives heretofore available. It will then identify and describe a little known alternative which is becoming increasingly attractive.

One obvious use of computers is to conduct retrospective searches of these information stores. Another is to extract variously specified subsets for patrons or to create a data base for later, faster searches. If subsets from different stores are to be combined, at least one of them may need reformatting. It may be necessary to build a data base from scratch or augment an existing one. You

might want to run standing queries against new material as it is received. Such current awareness searches can vary from specific "selective dissemination of information" (SDI) to individuals to more general coverage for large groups. Other possible uses include preparation of special bibliographies, indexes, glossaries, concordances, mailing lists and mailing labels.

Alternative Applications

What are the principal alternative ways to do such things now? First, the producer or vendor of a machine-readable information store may have programs to process it. If you need just what is available, have just the right kind of computing system, and can afford it, great! Second, most computer manufacturers have so-called general purpose file management systems to give, rent, or sell. These too are no panaceas. It will probably be necessary to build new files or reformat old ones to meet each system's requirements. Third, in a large and generous organization programs may be written by professional program-

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mers. These will probably be written in a "conventional" programming language such as FORTRAN or COBOL, will take a long time to write, be expensive in terms of manpower, and be hard to modify. Fourth, information services which offer both data bases and a remote computer to process them are increasingly becoming available. A terminal is purchased or rented, and telephone rates, computer processing time, and probably other charges are paid. With any of these four alternatives there could still be instances in which it would be useful to receive their outputs in machine-readable form and further process them.

There is another alternative that has only recently become available: It is now feasible in many cases to learn to program some of your own information processing tasks. The purpose of this paper is to provide an awareness, and some understanding, of this little recognized alternative.

Why is this alternative now becoming available when it has not been in the past? The earliest applications of computers were to computations; later, applications to business data processing became common. Early programming languages were tailored to these applications and were extremely awkward for information processing. When languages were developed for information processing, IPL and LISP for example, they were written by and for computer professionals, were difficult to learn and were not implemented for many computers. Only quite recently were really powerful, high level languages developed specifically to simplify non-numerical processing of symbols and strings of symbols. It has been even more recently that two of these, COMIT and SNOBOL, have been further developed on the basis of experience into advanced versions, COMIT II and SNOBOL4, respectively, and been implemented on most medium to large computers.

These developments could not have occurred in a vacuum. Great increases in computer speeds and storage capacities and great decreases in costs were

necessary and have occurred. A programming language is a symbol system developed to make it easier or faster for human beings to write programs. They allow letters, words, etc., to be used and a "super-program," usually called a "compiler," converts these into the binary strings the computer can sense. The more a language incorporates symbol systems that are easy for human beings to use, the more "high level" it is. Compilers for these high level languages occupy more space in the computer's storage and need time to operate. A related factor has been the development of remote terminals and the computer hardware and operating systems that can handle them using ordinary telephone lines. This has, in effect, put powerful computers on anyone's desktop.

Still more was needed, however. Both COMIT II and SNOBOL4 have powerful and intricate capabilities, most of which are not needed to do many useful information processing jobs of the kind considered earlier. The books which explicate them (1, 2) take the traditional approach to teaching a programming language—they start off with fundamental concepts or elementary operations.* The student must take it on faith for some time that these will eventually relate to something useful or even to each other. If he is only interested in using computers, especially if he is studying on his own, he may be unwilling, even unable, to stay with this approach long enough for it to give him a useful working capability with the language.

The Author's Approach

The solution to this problem requires reference to personal experiences. Convinced that, in this day and age, any person with a graduate library degree should have some appreciation of computers,

* Since this paper was first written, *A SNOBOL4 Primer* (3) has appeared. While it is more useful than Ref. (2) for a beginner, I feel that it is still not suited to the situations addressed here.

and that the only way to get that is by doing some actual programming, I included a unit on SNOBOL programming in a one-semester required course, "Introduction to Information Science," which I was then teaching at Indiana University. Not having time to follow the traditional approach, and wanting only to impart a general appreciation of computers rather than any useful skill, I developed a strictly utilitarian approach in which the students first did something useful, then learned how they had done it and why it worked the way it did. At each step, I introduced only those features of SNOBOL needed. Only in the last part of the unit did I introduce a few others that they might want to use in a personal programming project (optional for the first two offerings of the course, required for subsequent offerings). I avoided all mathematics beyond the simple addition and subtraction needed in some programs to count operations, loops, etc. I assumed absolutely no prior technical or mathematical background. The students' backgrounds were, in general, in the humanities—English, history, languages, arts, etc.

It was the performance of these students which first presented the solution ("An appropriately focused tutorial approach using a very limited subset of a very high level programming language") and later suggested the problem ("How, if at all, can a person with no background or interest in computers learn how to program useful information processing jobs without an impractically large investment of time?"). To my surprise and gratification, nearly all of the students succeeded far beyond expectations. Most felt intrigued and challenged. All did such sophisticated programs as to amaze their friends who knew conventional languages like FORTRAN or COBOL. And, most surprising of all, many of them, on their own, indicated that they felt they had acquired a capability they expected to be able to use later. (Similar experiences have occurred with an optional course of the same nature given at Queens College in New York.)

Dealing with Computers

These experiences indicate that special librarians should feel that they could learn to program many useful information processing jobs themselves. Benefits of doing this include economy, convenience, better control and, above all, the ability to take full advantage of the tremendous versatility of computers. The rest of this paper addresses some of the practicalities involved.

First, before approaching computer people, a few further words may clarify some of the differences between programming languages. For this purpose, the main differences will be related to 1) the intended application and 2) the ease of use.

The first computer programs had to be written in machine language (sometimes called object language or object code) in which everything—numbers, other symbols, codes for computer operations, and codes for locations in the computer—was expressed as strings of binary digits (i.e., either a zero or a one). The first step toward letting the computer help the human being to use the computer came with the realization that a program in machine language could be written that would permit octal (counting system) numbers to be used as a shorthand for the long strings of binary numbers. Thus, 11010001110110 would be written 32166, and the computer itself would transform the octal string into the binary string that the computer could sense in the way it was designed to sense.

The next step was to program the computer, using the easier octal symbols, of course, to transform letters, decimal numbers, and other symbols, into its binary strings. This process continued, using the most advanced system of symbols at any given moment to write programs that would transform even more complex input strings into machine language.

Assembly languages like IBM's Autocoder permitted the use of mnemonics, and let one symbol represent many instructions at the machine language level. Then procedure-oriented languages like FORTRAN, oriented to computations

(FORmula TRANslation), and COBOL (COMmon Business Oriented Language), oriented to business data processing, were developed, standardized, and became widely used. Languages like PL/I and BASIC represent significant advances over FORTRAN and COBOL in certain respects, but they are still primarily oriented to computation or data processing. SNOBOL4 and COMIT II are designed to process strings and lists of characters, and to transfer as much as possible of the tedium of programming from the user of the computer to the computer itself.

An inkling of the power of these languages can be seen in their ability to read in and print out any amount of data with only a one-line instruction as the entire program (not counting the always needed END instruction line). In SNOBOL4, the one-line instruction would be:

A OUTPUT = INPUT :S(A)

and in COMIT II it would be:

* A = // *RCR1, *WAM1 /

In FORTRAN, COBOL or even PL/I programs would be much lengthier.

What about the investment of time involved? Without any written material, seven to eleven 45-minute class sessions were spent on the SNOBOL programming unit, with some further individual help available for projects. By completing partially tested handout material which is oriented to the approach here, and by including exercises with annotated answers, this should be cut drastically. If this, or comparable material, is put into book form, it should be able to be used in a fully self-taught mode.

If a computer is available that can run either COMIT or SNOBOL, it is possible to proceed without waiting for tailored tutorial material. If both languages are available, choose COMIT for ease of learning (Yngve (1) is much easier to follow, too) or SNOBOL for computation or versatility. From the appropriate book, learn how to read in and print out "data cards" with anything on them.

Find out from the computer staff how to submit programs to be run, starting with punched cards and "batch" runs. Run a read-and-print program to get used to system procedures. Then try simple programs that do things with characters and character strings, skipping arithmetic and other fancy features insofar as possible. The goal is to learn how to make the computer search for, tag, and rearrange information. Both languages were designed to make these easy to do.

If a computer is available but cannot run either COMIT or SNOBOL, ask the computer staff to determine whether a compiler for that machine has been written for either language (1, 2), and if so, what would be involved in obtaining it and making it operative. If this is not feasible, it may be possible to rent (or obtain free) time on one of the commercial time-sharing networks (or on someone else's computer).

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Criteria for Journal Selection

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■ Selectivity in the acquisition of primary journals is becoming increasingly important in view of the proliferation of journals and the pressures on acquisition budgets in libraries. Several measures of significance such as number of source items and frequency of citation

are used to select journals for acquisition. These and other bibliometric measures of journal significance such as impact factor and immediacy index are described, and their relative advantages and weaknesses discussed.

THE NUMBER of scientific and technical journals in existence has been variously estimated, and the estimates vary between 30,000 and 100,000 (1). *The World List of Scientific Periodicals*, 4th ed., lists some 59,961 titles. The number of titles listed in the 3rd ed. of the *Union List of Serials* is 156,449, but these come from all branches of knowledge. This number is continuously increasing, and new titles are reported in *New Serial Titles*.

Since even large libraries can acquire only a finite number of journal titles, some degree of selection becomes inevitable. Acquisition librarians constantly face the threat of reduction of funds available for acquisition of serials. This is compounded by the rapidly increasing rate of subscription of journals. It be-

comes all the more necessary that the funds available be invested in the most useful manner. Several attempts have been made to devise measures to aid selection of journals. Some of these are reviewed in the following sections.

Counting Source Items

The number of source items contained in a journal in a specified period of time can be a quantitative measure of its importance, but it does not indicate the quality of the source items. Also, the number of source items is a function of the frequency and size of the journal. According to this measure, a quarterly journal reporting only scholarly work ranks far lower than a weekly or semi-monthly journal reporting semi-technical literature and 'newsy' articles. The number of source items is therefore a crude measure, and is of little value by itself in assessing journal significance. But it can be a valuable supplementary measure

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when used in conjunction with other measures.

Frequency of Citation

The frequency of citation of a journal in other primary journals has been used as a measure of its significance. Perhaps the earliest suggestion of citation frequency as a measure of journal significance was made by P. L. K. Gross and E. M. Gross in 1927 (2). They compiled a list of most cited serials in chemistry based on the frequency of their citation in one primary journal, the *Journal of the American Chemical Society*. This study triggered many other attempts to compile ranked lists of journals based on the frequency of their citation in published literature (3-9).

Use of citation frequency as a criterion for journal selection is based on certain assumptions, which were not stated or questioned for a long time. The fundamental assumptions on which this method is based were made explicit for the first time by Estelle Brodman in 1944:

1) The value of a periodical to a professional worker is in direct proportion to the number of times it is cited in the professional literature.

2) The journal or journals used as the base for the tabulation are representative of the entire field.

3) If more than one journal is used as a base, all of them can be weighted equally (10).

Brodman examined these assumptions and found that they were not true.

Charles H. Brown developed ranked lists of primary journals based on the frequency of their citation in abstracting journals (11). To overcome the effects of linguistic and national bias reflected in primary and secondary journals, frequency of citation in annual review publications were used as the basis for developing ranked lists of primary journals in medicine and physiology (12, 13).

Frequency of citation of a journal is dependent on the number of source items it contains, which in turn is a function

of the size and frequency of the journal. A weekly journal tends to receive more citations than a quarterly journal. Frequency of citation of a journal in published literature does not necessarily reflect the quality of the journal. The journals most often cited by authors are the ones most readily available to them. Journals of high intrinsic value may remain uncited because of their non-availability. It is true that many articles receive citations for reasons other than their quality. Factors such as controversial nature of the subject, extensive coverage by secondary journals, author's reputation, and reprint dissemination, also tend to increase the chance of citation of a journal article. On the other hand, some other factors such as publication in a foreign language, geographical and political barriers, tend to decrease the frequency of citation of journals.

Moreover, some journals are designed to serve the current awareness function, and do not contain the type of articles that are normally cited in scholarly communication. Such journals are important in library collections, though they are cited rarely or never.

Brown has cautioned against the use of citation frequency as the sole criterion of journal selection, and has suggested several other criteria: 1) recommendation by specialists; 2) recommendation by members of the library staff; 3) opinions of librarians of other institutions; 4) announcements and reviews; 5) consultation of lists of most cited serials (11, p. 3, 11).

Impact Factor and Immediacy Index

These are two measures used for ranking scientific journals in the *Journal Citation Reports* of the Institute for Scientific Information (14, 15). These reports contain lists of journals ranked by various criteria, on the basis of citation data gathered from the *Science Citation Index* for the last quarter of 1969.

Impact Factor is a measure of the "average" number of citations received by each source item published in a journal during a specific period of time, and

is calculated as follows:

$$\text{Impact factor} = \frac{(\text{Total times source items published in a journal during 1968 and 1967 were cited during last quarter of 1969}) \times 4}{\text{Total number of source items published in the journal during 1968 and 1967}}$$

Impact factor is independent of the size and frequency of the journal, since it is based on the "average" number of times a source item was cited, and not on the raw frequency of citation or the number of source items in the journal.

Immediacy Index is defined as a measure of the "rapidity" with which articles in a journal are cited by itself and other journals, and is computed as follows:

$$\text{Immediacy Index} = \frac{\text{Total times source items published in a journal during 1969 were cited during the last quarter of 1969}}{\text{Total number of source items published in the journal during 1969}}$$

Immediacy index is influenced by the rapidity with which source journals are covered by indexing and abstracting journals, and the accessibility of the source articles themselves. Foreign language journals are slow to be noticed in secondary journals. Cover-to-cover translation journals appear with a timelag of at least six months, and often a year or more, after the publication of the original journals. Thus immediacy index of foreign language journals and translated journals tends to be low. If we assume that only really worthwhile foreign language journals are translated into English or covered in English language secondary journals, then the low immediacy index that such journals would tend to receive may lead to an underestimation of their importance.

Computation of impact factor and immediacy index was facilitated by the availability of citation data from the machine-readable databases at the Institute for Scientific Information. Herbert Inhaber used these two measures to es-

tablish a "pecking order in physics journals" (16).

Volume of Use

Studies have been made to assess the relative importance of journals on the basis of the volume of their use in libraries. Kenyon and Hader have cited a number of studies in which the ranking of physics and chemistry journals was attempted on the basis of the estimated amount of time spent by physicists and chemists reading the journals (17). A variation of this method was used in a New York Public Library Survey in which journals were ranked by combining the reading room use of journals with the frequency of their photostorage use (17, p. 139).

A recent study by C. C. Chen on the use of physics journals in the MIT library revealed that out of some 220 physics journals, only 138 journals (62.7%) were used even once during a three-and-one-half-month period; and of these, a core of 49 journals (22.3%) supplied 90% of use (18). Alexander Sandison re-examined the data collected by Chen, and converted the raw frequencies of volume of use into densities of use-per-metre of shelf. Sandison's analysis showed that the rate of obsolescence was independent of the age of journals, and that conversion of raw frequency of use figures into density of use-per-metre of shelf radically altered the ranking of journals (19).

The American Chemical Society (ACS) has conducted surveys of reading habits of subscribers to ACS journals to assess the relative importance of chemistry journals (17, p. 138-139). This method has all the disadvantages of a questionnaire survey, such as intentional or unintentional distortion of user response.

Studies based on volume of use are usually restricted to only those journals that are available to the user in the library and through personal subscription. To offset this limitation, it is suggested that such measures be augmented by including requests for photocopies and reprints of articles from other journals, not immediately available to the user.

Conclusion

Several bibliometric measures have been devised to assess the relative importance of primary journals. These measures are based on such factors as number of source items, frequency and age of citation of journal titles in other primary and secondary journals, and volume of use of journals as ascertained unobtrusively or through user interrogation.

A common limitation of all these measures appears to be that they are all dependent on the availability of journals to users. Library patrons normally use only those journals that are made available to them (plus a few journals obtained on personal subscription), and authors cite only those journals whose contents become known and accessible to them.

Measures based on citation frequency have to be used with caution. A high frequency of citation does not necessarily indicate a high intrinsic quality of a journal. Articles are cited for reasons other than their quality. It is also suspected that authors do not cite all the references used or even use all the references cited. Some prestige articles (such as Vannevar Bush's article entitled "As We May Think," *Atlantic Monthly*, 1945) tend to be cited innumerable times by subsequent authors.

No one criterion used in isolation can give a realistic indication of the relative importance of journals. Development of "core lists" of journals based on one measure, howsoever sophisticated, is of little value. It is also important to remember that the relative importance of journals in a given library situation can vary with time. Such variations may be caused not only by changes in the scope and quality of the journals themselves, but also by other factors such as changes in organizational objectives and shifting interests of library patrons.

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Cataloging and Classification of Exhibition Catalogs in the Library of the Metropolitan Museum of Art

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■ The system of handling art exhibition catalogs in use in the library of the Metropolitan Museum of Art is discussed. Important exhibition catalogs are usually bound and cataloged individually as monographs; others are grouped and cataloged under the collec-

tive title "Exhibition catalogs." The cataloging procedure for the latter is simplified, however, without sacrificing important information. Procedures of processing, cataloging and classification are discussed in detail, and in many cases examples are given.

THE SYSTEM of cataloging and classification of exhibition catalogs used in the library of the Metropolitan Museum of Art was devised by Elizabeth Usher, chief librarian of the library, some years ago when she was head cataloger. Over the years, new procedures to simplify but at the same time not to sacrifice important information have been regularly added to the system to cope with the ever increasing quantity of exhibition catalogs that the library has acquired. Donya Schimansky, head of cataloging of the library, noted: "expansion and revision are the two forces which keep the system dynamic and at the same time up-to-date" (1).

This is the second in a series of papers presented Oct 21, 1974, at a seminar on exhibition catalogs sponsored by New York METRO in cooperation with SLA's New York Chapter Museums, Arts & Humanities Group and the New York Chapter of AR-LIS/NA.

Binding Decision

When an exhibition catalog is received by the cataloging department, it is critically evaluated to see whether it is a catalog of an important exhibition; whether it contains scholarly text, good reproductions, valuable biographical and/or bibliographical information. If it is considered significant, it will be bound and cataloged individually as a monograph; otherwise, it will be grouped with other catalogs and put in a pamphlet box or a binder, and cataloged under the collective title "Exhibition catalogs." For instance, the exhibition held at the Metropolitan Museum in 1970, entitled "Before Cortés" was one of the major centennial exhibitions of the museum. The catalog contains scholarly text, bibliography, and good reproductions. Therefore, it is individually cataloged in depth with full descriptive details, and individual call number (Figure 1).

Another example is the exhibition in Paris at the Petit Palais last year, en-

Figure 1.

674 N489	<p>New York (city)—The Metropolitan museum of art.</p> <p>Before Cortés, sculpture of Middle America; a centennial exhibition at The Metropolitan museum of art from Sept. 30, 1970—Jan. 3, 1971. Catalogue by Elizabeth Kennedy Easby and John F. Scott. Foreword by Thomas P. F. Hoving. Pref. by Dudley T. Easby, jr. [N.Y.] Metropolitan museum of art; distributed by New York graphic society[1970]</p> <p>322 p. 419 illus.(27 col.)col.maps. 29cm.</p> <p>Colored jacket illustration tipped in.</p>
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Figure 2.

110.8 P214	<p>Paris—Palais des beaux-arts.</p> <p>Trésors d'art chinois: récentes découvertes archéologiques de la République populaire de Chine [exposition] mai-sept. 1973. Paris, 1973.</p> <p>1 v. (unpaged)chiefly illus., 16 col.pl. 25 x 21.5cm.</p> <p>Title on half title page in Chinese.</p>
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Figure 3.

107.4 P263	<p>Paris—Musée d'art moderne.</p> <p>Exhibition catalogues. Paris, 1948-73</p> <p>9 v. & 3 boxes. illus. 26cm.</p> <p>For contents see next card.</p>
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titled "Trésors d'art chinois." According to many scholars, this is one of the most important exhibitions in recent years. The exhibition contains close to 400 objects dating from pre-historic times to the 14th century unearthed in China since 1949. The distinguished French Orientalist, Vadime Elisseef, stated: "This is the first time in history that such a set of pieces from archaeological digs—dated and localized—has ever been brought together" (2). Elisseef was largely responsible for putting the show together in conjunction with the authorities of the People's Republic of China. The catalog of this exhibition provides valuable information with illustrations and colored plates.

Therefore it is cataloged as a monograph (Figure 2).

For catalogs grouped in the pamphlet box and cataloged under the collective title "Exhibition catalogs," the descriptive cataloging is simplified and they are given a collective call number (Figure 3).

Accessioning

After the decision is made that the catalog is to be bound and cataloged individually as a monograph, it is accessioned. An accession slip is typed and filed in the Accession Record File. At the same time a bookplate stamped with the accession number is also prepared, ready to be pasted on the catalog when it is returned from the bindery. Cataloging then follows.

Exhibition catalogs that are grouped in a pamphlet box are not individually accessioned; only the box gets an accession number. The bookplate is pasted on the box. Then the catalogs in the box are ready to be cataloged.

The accession slip is typed on a multiple form, containing five sheets of different colors. Each of the five sheets serves a different purpose, for instance, one is used as a record in the Order Department, another as a temporary card in the main card catalog, thus providing service to the library users before the cataloging is completed. The accession slip is filed in the Accession Record File, which is a permanent record of the library's holdings kept in the numerical sequence of the accession numbers.

Classification and Cataloging

Classification. The library of the Metropolitan Museum of Art uses its own decimal classification system, developed to fit the museum's needs. Its emphasis is on art and related fields. When an exhibition catalog is treated as a monograph, it is classified according to the subject matter. For instance, the classification number 674, on the catalog card "Before Cortés" (Figure 1), stands for "Antiquities—Mexico and Central America." In the classification

number 110.8 on "Trésors d'art chinois" (Figure 2), 110 stands for "General History of Art," and is sub-divided by country, .8 indicates China.

The classification number 107 is used for exhibitions. It is sub-divided geographically, i.e., by place where the exhibition is held. For instance, catalogs of exhibitions held in Paris, Musée d'art moderne and grouped under the collective title "Exhibition catalogs," are given a collective classification number 107.4, .4 is for France (Figure 3).

Cataloging. The main and added entries are determined in several ways. Museums and official galleries are entered:

a) Under the first word of the name if the official name is a proper noun, using a comma before the city, e.g., Solomon R. Guggenheim museum, New York.

b) Under the city if the official name of the museum or gallery begins with a common word and the city is not a part of the official name. A dash is used between the city and the name of the institution, e.g., Chicago—Art institute; New York (city)—The Metropolitan museum of art. If the name begins with the name of a city and it is a part of the official name, the dash is omitted, e.g., Philadelphia museum of art.

c) When the exhibition was held in more than one place, the first place is made the main entry, and the others, the added entries. The library's policy is to use no more than two such added entries. If the Metropolitan Museum had an exhibition, it is made the main entry regardless of where the exhibition took place first. In the case of a traveling exhibition, the responsible organization is made the main entry. The added entries are underlined on the face of the main catalog card if they are the same as the entries used in the library, otherwise the corrected entry is shown on the back of the main card (Figures 4, 5).

Private and commercial galleries are entered:

a) Under the name separated from the name of the city by a comma, e.g., Galleria d'arte Michelangelo, Rome; Kennedy galleries, New York. (The name of

Figure 4.

995 N48	New York (city)—The Metropolitan museum of art. Chinese calligraphy [exhibition] Mar. 14–May 7, 1972; Philadelphia museum of art, Sept. 25–Nov. 7, 1971; Nelson gallery—Atkins museum, Kansas City, Jan. 6–Feb. 6, 1972. [Catalogue by Tseng Yu-ho Ecke. Phil.]Philadelphia museum of art,1971. 1 v. (unpaged) front.,160 illus. 30cm.
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Figure 5.

<p>Writing, Chinese—Exhibition. Calligraphers, Chinese. New York (city)—The Metropolitan Museum of art—Exhibition—Chinese calligraphy, 1972. William Rockhill Nelson gallery of art and Mary Atkins museum of fine arts, Kansas City, Mo. +Tseng Yu-ho Ecke.</p>
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the gallery is determined after checking the Library of Congress catalog, The Official Museum Directory, Museums of the World, International Directory of Arts, Art Index, World of Learning, American Art Directory, etc., or the gallery's own catalogs.)

b) Under the surname, if the gallery is a firm (and co., ltd., and sons, etc.) or if the name of the gallery starts with an initial, e.g., Tooth, Arthur & sons (not Arthur Tooth & sons); Schweitzer, M. R. gallery, New York.

For a foreign city the entry is in English with the museum or gallery division in the language of the country, e.g., Rome (city)—Museo Capitolino. However, there are exceptions. One in the case of non-Latin alphabets. For example, Russian and Greek are transliterated: Leningrad—Ermitazh. Japanese and Chinese are translated into English: Tokyo—National museum of modern art. The above rules for establishing main entries apply to both exhibition catalogs treated as monographs and those under the collective title.

Descriptive cataloging is complete for those items mentioned earlier. These exhibition catalogs are treated as mono-

Figure 6.

131.98	Tokyo—National museum.
T572	Tokubetsu-ten mokuroku: Heian jidai no chōkoku (Sculpture of the Heian period, catalogue of a special exhibition) [Oct. 13—Nov. 28, 1971. Tokyo, 1972]
	291 p. incl. illus., 195 pl. (8 col.) map. 34.5cm.
	In Japanese; foreword and list of plates also in English.

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graphs. If the title is in both English and a foreign language(s) the English is used. If the title is in two or more foreign Western languages, the first is used. If the title is in languages with Latin alphabet and non-Latin alphabet, the Latin alphabet is used. Cyrillic (i.e., Russian, Serbo-Croatian, Bulgarian) and Greek alphabets are used, if the title is only in one of these languages. Transliteration and translation in parentheses are added as a note. Chinese and Japanese titles are transliterated and translation added in parentheses (Figure 6).

In the statement of exhibition, the word "exhibition" and date(s) are included in the body of the card in the language of the catalog; if they are not printed on the title page, they are inserted in brackets, e.g.,

Basel (Switz.)—Kunsthalle.

James Ensor [Ausstellung] 15 Juni—4 Aug. 1963.

Exceptions are the Chinese and Japanese statements which are translated into English.

For place of publication, the language of the imprint is used.

Collation is handled pragmatically. If the catalog appears to have over 50 unnumbered pages, pages are not counted; the following is used: 1 v. (unpaged). When the pagination is very complicated, the following is used: various paging. Black and white illustrations are not counted. A count is added only if it is given in the catalog. When there are mainly illustrations and/or plates with little text, the following is used: chiefly illus. Colored illustrations and all plates

Figure 7.

	Pamphlet Box
107.4 [68]	Picasso, 4 fév.—25 mars 1971.
P263	
[69]	La peinture anglaise aujourd'hui 7 fév.—11 mars 1972.
[70]	Pablo Serrano, 6 juin—2 sept. 1973.
	See next card

Figure 8.

	Pamphlet Box
	Picasso, P.
107.4	Paris—Musée d'art moderne.
P263	Exhibition catalogues. Paris, 19
no[68]	v. & boxes. illus. 26cm.
	For holdings and contents see main card.

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are always counted, e.g., 45 p. chiefly illus. (35 col.); 198 p. incl. 100 pl. (80 col.).

The descriptive cataloging for exhibition catalogs treated under the collective title is simplified, as shown in Figure 3. The individual catalogs under the collective title are listed in the contents in chronological order. Bibliographical information includes author or editor, if any, title, and exhibition date(s) (Figure 7).

The usual subject headings, such as Architecture, Drawing, Sculpture, etc., and artists, are used for all exhibition catalogs, both those treated as monographs and those under the collective title. For the Metropolitan Museum of Art exhibitions, an additional subject heading is used, i.e., the main entry followed by the word "Exhibition," then followed by the title and year of the exhibition, e.g., New York (city)—The Metropolitan museum of art—Exhibition—Prints by Martin Schongauer, 1970.

The usual analytical entries of author and subject with full descriptive cataloging are made for exhibition catalogs treated as monographs.

Figure 9.

	Pamphlet Box
107.4	Painting—England—20th cent.
P263	Paris—Musée d'art moderne.
no[69]	Exhibition catalogues. Paris, 19 v. & boxes. illus. 26cm.
	For holdings and contents see main card.

Figure 10.

Petrick, Wolfgang, 1939— German painter.

Figure 11.

177P58	Spanish
Picasso, Pablo, 1881—1973.	
Spanish painter.	

Figure 12.

Corotto, Carlos, 1933—
° I.D.A.
° Art Index
° Phaidon
✓ Galería Rubbers, Buenos Aires. Exhibi- tion catalogue, 1971 no[39] 107.15/ G132

For those treated under the collective title, all necessary entries are also made for every individual catalog, but only the short forms are used. Figure 8 shows an artist as subject analytic (short form); Figure 9 shows a subject analytic other than artist (short form).

For every artist appearing in the Main Card Catalog as a subject, a guide card is made. It is filed in the Main Card Catalog in front of the subject card(s) of that artist. Information on the guide card includes: the artist's full name, date(s), na-

tionality, and medium (or media) (Figure 10).

In addition to the guide card an artist card is also made for every artist, to be filed alphabetically in the artist file. Information on the card includes the artist's full name, date(s), nationality, and medium (or media). If there is a classification number for the artist, it also appears on this card (Figure 11).

When establishing information on an artist, biographical dictionaries, encyclopedias, art directories, indexes, and other reference works are consulted. Sources are noted on an authority card, which is filed alphabetically in the Authority File. Often information on a contemporary artist may not be found in any of the standard reference works. The exhibition catalog of the artist is then shown on the Authority Card as the sole source. The call number and the catalog number are included for easy reference (Figure 12). The authority file is kept up-to-date by adding information whenever available.

Vertical File

To supplement the main catalog, there is a vertical file which contains clippings of newspapers and periodicals concerning current art activities, movements, news of museums and galleries, exhibition announcements, flyers, posters, reviews, etc. Such information on contemporary artists, some of which is not available in the main card catalog and is hard to find elsewhere, is especially important and useful to researchers.

Sharing of Bibliographical Information

The library of the Metropolitan Museum of Art constantly strives to make its bibliographical information available to other libraries, artists, scholars and researchers in the following manner. The library regularly sends notification of its new acquisitions to the Library of Congress for inclusion in the National Union Catalog. The library's printed catalog, *The Metropolitan Museum of Art, New York, Library Catalog*, 25 volumes, was published by G. K. Hall in 1966. It is

kept up-to-date by supplemental volumes. The 5th supplement was published in 1973. Finally, a monthly list of additions is distributed to individuals and institutions according to the library's mailing list.

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Pollution in Lake Erie 1872-1965

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■ The relevant literature is reviewed and some of the sources that are available for a study of the historical development of pollution in Lake Erie is listed. Of special concern are the lesser known

sources of information which may be available in library collections or which may otherwise be easily obtained if their value and availability were known.

PUBLIC CONCERN for the conditions in Lake Erie is a comparatively recent phenomenon, but we are not without a body of literature about the chemical and biological properties of the waters and primary life forms native to Lake Erie. In the year 1965, the U.S. Federal Water Pollution Control Administration was established. In 1970, the U.S. Environmental Protection Agency was established as a monitoring agency which also incorporated the functions originally assigned to the Federal Water Pollution Control Administration (see "Additional Sources"). Several significant conferences on the pollution of Lake Erie and boundary waters have been sponsored by the Federal Pollution Water Control Administration and the Federal Water Quality Administration. Since the mid-1960s, published reports from many sources have become more frequent. Several journals, abstract journals, and proceedings of conferences are being published which previously were not available. A serious effort is now being made to coordinate research and to publish and make known the literature that is available. For these reasons, the year 1965 was chosen as a cut-off date in this review.

The sources of literature included in this paper are primarily reports and bulletins from federal, state, and municipal agencies involved in scientific investigations of Lake Erie and papers published in scientific journals which may not be

well known, but contain valuable information. The papers included in the bibliography are those which give information about the life forms in Lake Erie at different periods as well as those which are concerned with pollution as a subject. Only literature from sources within the United States have been included. It should be acknowledged that much valuable work has been done by Canadian agencies such as the Fisheries Research Board of Canada, the Ontario Department of Land and Forests, and the Great Lakes Institute of the University of Toronto.

The writer recognizes the many issues involved with any discussion of the problem of pollution in Lake Erie. There are social, economic, and political ramifications which have current concern. Similarly, there are different sources or causes of water pollution. It is not the writer's intention to discuss these issues or delineate the various "kinds" of pollution, but to discuss sources of information on the subject. Most of the earlier studies were concerned with commercial problems, usually involving the fisheries, and pollution only as it affected the fisheries.

There are three stages in the developmental history, or life cycle, of a freshwater lake. In the oligotrophic stage, the lake is essentially free of nutrients, sterile, and unpolluted. In the mesotrophic period, the natural addition of nutrients increases the fertility of the lake. This is followed by the eutrophic or nutrient

rich period. The eutrophic period can be hastened by the addition of nutrients as a by-product of man's activities. Increases in the nitrogen and phosphorous content and decrease in the dissolved oxygen content of lake waters is an accepted indice of eutrophication (1). These conditions are common in polluted freshwater bodies. As pollution progresses, the lake bottom life changes and permits the experienced worker to use certain plant and animal life as indices to the situation. Essentially, a study of pollution in Lake Erie involves a review of the relevant literature for the purposes of noting any changes in the fauna of the lake using the accepted indices as indication of pollution.

Lake Erie can be rather conveniently divided into three geographical areas for purposes of study. There is a shallow western basin, a broad central basin encompassing nearly two-thirds of the lake, and a deep eastern basin. From the eastern basin, the lake waters exit from the lake into the Niagara River.

As nearly as practical, the literature is discussed in chronological order. Because many of the significant sources of periodical literature began publication after 1965 and public concern has been more significant in recent years, the literature review is limited to materials published before that date. The journal articles and reports are limited to those with information pertaining to Lake Erie. The materials listed in the Bibliography are typical, but only a small sampling of the information available about freshwater flora and fauna in the United States, and Lake Erie specifically.

Summary of the Literature

A review of the literature from 1872–1920 shows that the issue of most concern during this period was pollution by sawmill and cannery effluents, pollution in the shipping channels, and possible contamination of municipal water supplies. With the exception of the shipping channels, the prevailing attitude was that pollution was confined to the harbors and rivers of heavily industrialized

areas. Dilution of polluted waters and self-purification in the open lake waters was thought to be complete.

As early as 1882, however, C. M. Vorce noted that the city of Cleveland had pursued the practice of dumping all garbage and night soil of the city into Lake Erie and water samples from the lake now contained species of algae (*Vorticella*) and other life forms which previously had been rare or non-existent (2).

The International Commission for the Control of Pollution of Boundary Waters was established by the governments of the United States, Canada, and Great Britain in 1909 (3). It is significant that the seriousness of the problem and the need for cooperation was recognized at this relatively early date.

The first, and to date only, comprehensive study of the entire lake was made during the years 1928–1929 (4). As a result of the depletion of the Cisco fishery in the western part of the lake, investigations had begun in localized areas as early as 1926. Because of the depletion of the Whitefish fishery in the eastern regions, similar investigations were begun in the eastern basin. The agencies involved in investigations over the entire lake decided to coordinate their efforts for the comprehensive study of 1928–29. While again emphasizing pollution in certain rivers entering Lake Erie and in harbors of municipalities, the 1928–29 surveys gave us no cause for alarm and the preliminary reports stated that pollution was not a factor in the decline of the fishery of the two valuable species mentioned. The study is valuable as a source of comprehensive biological and chemical data about Lake Erie that may be used for comparative purposes with later investigations.

The final report was not published until 30 years after the study had been completed. No explanation has been given for this delay. We may assume that interest or finance was lacking, or both. The study is the only one available to date that contains detailed biological, bacteriological, and chemical data about the central and eastern basins of Lake Erie as a unit or as complete eco-systems.

The body of literature expands tremendously between 1931 and 1945 with many studies of conditions in small areas and usually not intended to be comprehensive. In referring to them, it is necessary to remember that lake conditions may change daily. Factors influencing a given locality may have no influence at all if a sampling station had been chosen a few miles away or on a different date. Primarily, these studies were concerned with the algae and plankton life of a given area. They are valuable when compared with similar studies made from the same location in different years or when they extend over a significant period of time.

Industrial pollution can have a more immediate and disastrous effect on the fauna of a lake because of the possible toxic qualities that may result in the destruction of both plant and animal life. An outstanding example of the consequences of the introduction of toxic materials into the lake waters was reported by G. E. Symons and R. W. Simpson in the May 1940 issue of the *Transactions of the American Fisheries Society* (6). In 1937, three separate episodes of fish destruction occurred in the Niagara River in the vicinity of Buffalo, N.Y. Dead minnows were reported knee deep 25 to 30 feet off shore and a fish kill of 500 million was said to be a conservative estimate. The fish appeared to come to the surface, gasp for air and evidently die of suffocation. The source of pollution was determined to be a small highly polluted stream flowing through the city of Buffalo (the Buffalo River). Because of a combination of rains, winds, and changes in lake levels, the stream discharged its load of polluted waters into the lake more rapidly than usual, allowing less time for dilution by lake waters before the wastes exited from the lake into the Niagara River.

In 1946, the International Joint Commission on Pollution of Boundary Waters was directed to investigate the waters of the St. Clair River, Lake St. Clair, and the Detroit River. This investigation was extended in 1948 to include the Niagara River, Lake Erie, and Lake Ontario. The

commission's reports were published in 1951. Pollution in both Canadian and American waters in some areas were so extensive as to be injurious to health and property.

An extensive survey was authorized by the Ohio legislature in 1949 and 1950, and published in 1953 (7). It is significant because it gave attention to the recreational usages of the waters of Lake Erie. There was evidence of gross pollution and none of the bathing beaches in the Cleveland area met any accepted standard for bathing waters.

Investigations since 1960 indicate changes in the primary benthic community of Lake Erie, and an absence of dissolved oxygen in the open lake waters for substantial periods of time. These conditions are often indications of rapid eutrophication.

Summary

A review of the literature since 1872 seems to indicate that scientists were aware of the gradual increase in pollution in Lake Erie but either lacked the ability to visualize future problems or were concerned only with local issues of the day, which were usually questions relating to the suitability of the lake waters for the fisheries.

Because information has been scarce and difficult to locate when it exists, unpublished reports and other records or data maintained by municipal health, sanitation, and public works departments can be useful. Often they are quite extensive. For an example, almost daily phytoplankton counts have been taken from water samples by the Cleveland Water Works Department (8).

Nutrients are added to a freshwater lake from many sources. Every lake receives the continuous inputs of the streams and rivers of its drainage basin with whatever chemicals those waters may contain from soils of the land. Pollutants are received from municipal sanitation wastes and industrial sources. Industrial pollutants are a special problem because these materials tend to be more difficult to oxidize and they may be toxic.

For over one hundred years, the U.S. Corps of Engineers has been accused of being a contributor to lake pollution. The dredging of ship channels and harbors is necessary for navigation. The Corps' method of disposal of those dredged materials, containing highly contaminated bottom materials is simply to transpose them to another area of the lake where they are dumped. To precisely ascertain the consequences of this method of disposal would be extremely difficult. The supposition is that in some areas, breeding grounds for various species of freshwater life are destroyed.

It would, however, be a mistake to point an accusing finger at the Corps of Engineers because it is doubtful that many, if any municipalities would have been willing to experience a decline in commerce for the purposes of abating a form of pollution. Since most people would probably agree that trade and commerce is desirable, a more satisfactory method of disposal hopefully will be found.

The Sea Grant Act of 1966 makes funds available to colleges and universities for the study of marine and freshwater problems, previously a rather limited area of academic interest. There are a number of newly created departments of limnology or environmental studies, and expansion has occurred in the more developed area of marine sciences. With the sudden interest of government, the universities, and the public comes the demand for library collections which simply do not exist. Librarians must now concentrate on this new area of interest to their patrons.

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Additional Sources

No retrospective study of the pollution problem would be complete without a search of the publications of the U.S. Department of the Interior and other federal agencies. In doing so, one must be familiar with the complexities of organizational structure and the effect that changes in that structure have on the publication effort. The U.S. Federal

Water Pollution Control Administration, for an example, was originally located within the U.S. Department of Health, Education, and Welfare. In 1966, it was transferred to the U.S. Department of the Interior as the Federal Water Quality Administration, where it remained until the establishment of the U.S. Environmental Agency in 1970. The cumulative effect of changes and minor variations in citation are obvious sources of difficulty in the use of government publications.

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This Works For Us

Videotape—A Library Communications Tool

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OUR Information Center offers a variety of information services to the technical staff at our Central Research Laboratories where it is located. Two of its major collections are the commercially published materials available from the Central Research Library, and the Airco proprietary materials which, with the government classified materials, are available from the Central Technical Records section. Although our information services have been available to the company divisions of Airco, requests until recently had been fewer than we anticipated. We knew that a need for information existed within the divisions, and early in 1972 we decided to make a greater effort to extend our services to meet this need.

At that time our Photographic Laboratory had acquired a Sony ½-inch tape, black and white Videocorder system. This system includes: three Sony cameras, one is a Video Rover model; two videocorders for recording, editing and playback; and two 9-inch Sony television monitor-receivers, used for viewing and electronic editing; and also a special effects generator. Finished programs can be put on a loop that permits continuous viewing when this is required. We decided to make use of this equipment to describe our information services and collections. We are convinced that "seeing is believing" and that our "face-to-face" communication is a superior advertisement when compared with our previously printed announcements. Since videotape incorporates both audio and visual dimensions, by using it we were

able to offer a more dramatic presentation of our services to the technical and marketing staffs we hoped to serve.

The setting for our presentation was in the library with "show-and-tell" discussions by four staff members. Four major stages are involved in making a videotape: planning, production, post-production, and presentation. Planning requires a number of discussions to plan the physical production, the preparation of the script, a check-list of the auxiliary items and also dry-run rehearsals. Production consists of the simultaneous recording-filming of the action, and the changes and retakes that may develop. Post-production includes editing the completed videotape to produce the acceptable master, from which the required number of prints will be made for distribution, and it also includes the processing for retrieval and storage. Presentation includes announcement of the new videotape after the appropriate internal approvals have been obtained. It also includes the distribution and storage of the videotapes. Our nine-minute videotape became our commercial for announcing literature searches, translations, reference and order services, and two weekly bulletins.

System Advantages

Videotape is a flexible medium and a variety of effects can be achieved with it, depending upon the imaginative input. You can dub in sounds later on, such as a voice or a telephone ringing. You can

flash illustrations on and off a partial screen which is also shared by a speaker. A zoom lens will permit you to get close-ups of printed materials or to examine objects. Graphics, slides or microfilmed information can be viewed on it. A significant advantage of videotape over motion picture film is that videotape can be viewed immediately after filming, and changes or retakes made on the spot or later, on the same tape.

Videotape is portable. You can view it anywhere that you can set up a 9-inch TV screen and playback equipment. All you need is a 3-foot-square area with an electric outlet. You can send videotapes through the U.S. mail for viewing anywhere and thus get "prime time" for your message. Playback equipment is also available on a rental basis from dealers in all cities. Videotape offers the advantages of permitting your message to be repeated as often as desired, and also of making reference back to any specific item of interest. It is a medium for instructing viewers on how to do something, and also can be a motivating influence upon viewers to do something.

Choice of videotape and equipment depends upon your purpose. For example, 1/2-inch tape may be used conveniently for an in-house communications system and for field use. A 1-inch tape master will be of superior quality when

compared with a 1/2-inch master. A 2-inch tape is used mainly for commercial broadcasting.

An increased number of requests for information have been received from our company divisions after viewing our videotape. Representatives of one of our divisions used it in the Aircor booth at trade shows to announce availability of technical information support. This was done by using a loop that permits automatic continuous viewing. It has also been shown at various meetings. We use it as orientation for visitors to our Information Center and as a basis for further discussion of our services. Videotapes made in our Central Research Laboratories, or in the field, are often viewed on the large Sony television screen in our Central Research Library. The videotape format has been added as another source of information in the Aircor collections.

We have observed the increased use of videotape in applications in the field of education, in museums, in real estate, in corporate communications, in employee relations and training, and in security systems. We have been impressed with its potential as a transfer of information from one source to another. It could be used for continuing education in librarianship on a wider basis than at the Annual SLA Conference. It is conceivable that other associations as suppliers to

Figure 1. Staff Discussing a Taped Segment Viewed on the Monitor-Receiver



the library field might make videotapes available to bring their on site operations to local library groups. Librarians should now be concerned with becoming knowledgeable in this area so that discussions relating to library applications can take place with the video industry earlier than those have taken place with the micrographics and computer industries. A major concern will be the adoption of appropriate standards to suit information requirements.

Equipment

The following equipment was used in making the videotape on the Airco Information Center. Running time is 9 minutes, 28 seconds.

Videotape. Sony 1/2-inch, black and white, magnetic tape on reels (V-31)
 Unedited original \$20.00
 Edited master \$20.00
 Print #1 and each additional print \$20.00
 Sony V-31, 1240 ft., tapes have a running time of 1/2-hour and permit recording up to 30-minutes. Sony V-32, 2370 ft. tapes permit recording up to 1-hour.

Cameras (includes accessories).
 Sony Video Rover AV 3400/
 AVC 3450 \$1850.00
 (Includes portable hand held camera and AV Videocorder battery or AC operated.)

2-Sony Video Camera AVC
 3250DX \$960.00 each
 Sony Special Effects
 Generator SEG 1A \$800.00
 2-Sony TV Monitor-Receiver,
 9-inch Screen, CVM 950U \$295.00 each
 For viewing and electronic editing.
 Sony Videocorder AV 3600
 \$895.00
 Compact, portable, videotape recorder
 Sony Videocorder AV 3650
 \$1250.00
 Has an electronic editing capability

Microphones.
 3 Sony F-27 \$14.50 each
 1 Sony Mixer MX900 \$450.00
 Permits use of several microphones with balanced sound level

Lights.
 3—1000 Watt Quartz Iodine \$22.50 each

Endless Loop for continuous viewing, runs 10 minutes then repeats \$30.00

Letterfonts for making captions such as titles, individuals' names or other identifications Photo Lab. stock item

2 *Sony TV Monitor-Receiver,* 18-inch, CVM 194U \$350.00 each
 one is located in the library and the other is in the photo lab.

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Looking Over Our Shoulder in the Orient:

Observations on Today's U.S. Information Service Libraries

Chester S. Williams

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■ The first U.S. information libraries were set up to meet post-World War II needs overseas under the Overseas Branch of the Office of War Information. The director of that operation comments here on a few of these libraries which he re-visited in the fall of 1974.

FOR one who had a hand in initiating American reference libraries abroad three decades ago, it was exciting on a recent trip to the Orient to see how a few of the now hundreds are operating, to enable leaders and students in many fields to "look over our shoulder" at what we are communicating through our own media.

Their vitality has been attested by both an expanding use and an occasional abuse. The American libraries have become centers of research for a variety of specialists, and also a favorite target of terrorists. The recent burning of a U.S. library in Pakistan shows again that our lamplighters of learning and their arsenals of ideas arouse the ire of fanatics.

The Past

The original concept of the overseas libraries as highly specialized reference centers, servicing the needs and interests of a relatively small number of leaders of

thought, has been re-emphasized in recent years. Rather than attempting, as many did for a while, to function as lending libraries to reach the general public directly, the aim now is to work with key interpreters in government, the arts and the professions, and the academic world, especially with those who communicate through their own media.

Instead of building up ever larger collections by keeping the entire flow of books, periodicals, and documents, requiring more space and bigger budgets, today's libraries are culled continuously. Valuable materials of less current importance are fed into libraries of local universities and institutions. Thus the reference library is kept manageable by concentrating on a significant selection of the American yearly output. It also is building up permanent collections with its local colleagues.

Due to the great shortage of shipping during World War II, the early libraries had to be severely restricted in their acquisitions and the flow of materials had to be severely restricted. In addition, the flow of materials to public and institutional libraries as well as to bookshops was virtually cut off. Therefore, core collections of U.S. information libraries, which grew slowly, had to be ingeniously managed to reach key users. The demand was great since the supply was so limited. From a mere trickle of materials considered of importance to knowledge and understanding among allies, the libraries sought to move as much vital in-

formation as possible quickly into the media of their host country. Selectivity and conciseness in communication were enforced by the acute paper shortage. The central purpose, in a reasonably broad sense, was to make words help win the war—from stepping up production to improving morale.

The Present

In today's veritable explosion of information and communication, the environment of the libraries has greatly changed. Yet the original concept has not only survived but seems newly relevant to changed conditions. Now it is the keen competition for readers, listeners and viewers that insists on selectivity and conciseness. In the Orient, even though more people are rapidly gaining proficiency in English, the channel to the host country's media must be through a relatively small number of leaders who are facile in our language.

All the librarians I met are maintaining regular contacts with lists of key communicators and scholars, alerting them to incoming materials of likely interest to them and their colleagues or audiences. Each librarian tailors his or her newsletters to local needs. More and more, librarians seem to be resorting to personalized alerts by phone, or individual notes, or even sending photocopies of material they feel would be welcomed. This means that they must know the special concerns of a large number of their clientele. And they must take time to review incoming materials to spot what may be most vital.

This is perhaps easier for today's librarians who are usually natives of the countries, if not the cities, where they serve. The early libraries were headed by Americans who hired a few local assistants. Judging from those I met, this generation of professional librarians—whether Japanese, Filipino or Chinese—were mostly trained in United States library schools.

The goals toward which they strive are not so clear and simple as a "help win the war." Yet the need is perhaps

Figure 1. A View of the Periodical and Reference Section of the USIS Hong Kong Library



even more urgent. In serving United States policy, the libraries try to contribute to understandings essential to cooperation between nations in order to save the peace and to achieve a workable world economy that will make life livable on a productive planet. Put negatively, misunderstandings, or false views of the United States and its policies, can be dangerous if not calamitous to peace and international order.

Services

New technologies have added scope to today's libraries. Videotapes on a variety of subjects are viewed on TV sets by groups, and by individuals wearing headsets. One library reports an average of 50 viewings a day. Microfilm offers quick reference to bulky materials, such as several years of the *New York Times*. Improved photocopying machines, with capacity for fast duplicating, provide primary clients with articles and excerpts promptly. Air mail assures access to periodicals soon after publication.

In most places, selected American magazines and paperback books are available to English readers at newsstands and book shops. But copies in an American library, especially of news magazines, serve a special purpose where censorship leaves tantalizing gaps in those offered for public sale. For example, many come to the libraries in the Philippines, which has been under martial law for two years, to see what the censors clipped out of magazines on newsstands. Government

officials seem as curious as professors and students.

Though the main thrust of the USIS libraries is service to a leadership group with access to the local media, they do not exclude any patrons. Many come just to seek information. A mother reads about Kansas City where her daughter has settled. An artist looks for examples of a new technique he has heard about in the United States. A housewife copies out recipes for American dishes to use while entertaining her American son-in-law. A dress designer pores over American fashion magazines. An investor charts stocks he holds, from microfilmed stock market reports. And many students, both at college and high school levels, do research for projects from small reports to doctoral theses.

Monthly reports of the librarians provide embassy staffs with a wealth of information about the interests of library users. The kind of materials that are attracting the most attention suggest how foreign service officers can serve our country best. The libraries as listening posts even influence policy development. User reactions to various materials, especially videotapes, can be significant.

Economic subjects head all the lists I saw of the most requested materials. In the Bangkok October report, after economics, foreign policy, political and social problems, education and the arts were categories of most interest. Requests are, of course, stimulated by the materials featured in the annotated "alerts" on new acquisitions, mailed out monthly to clientele lists.

Attendance varies greatly but is not a basic test of a library's impact. The three libraries in Taiwan, for example, recorded more than 190,000 visitors during the last year. The libraries I visited were busy. Most chairs in reading rooms and research cubicles were occupied.

Earlier libraries I used to inspect in Europe fronted on main boulevards, and featured window displays. Those I visited in the Orient were in business buildings with other USIS offices and facilities. The approach to the Hong Kong library, via an elevator, was

through a crowded, narrow arcade lined with garish newsstand displays of pornographic publications from all over the world.

Little auditoriums, seating 100 or so, are usually adjacent to or near the libraries. Some use most sophisticated audiovisual equipment for stereo musicals, films, slides and other presentations. Numerous meetings are scheduled during the year, presenting visiting American authors, artists and professors, exhibits and book reviews. Such programs are sometimes arranged by librarians, but more often by other sections of USIS.

The most unusual library I saw was in a new building especially designed for USIS in Kyoto, Japan. Among striking innovations were the openness of the library arrangement and its decor, which utilized large letters of the English alphabet.

Last year the libraries served in a special way. From their many current books and magazines, staff members were able to answer the interest and clarify the perplexities of Orientals regarding Watergate and the American Presidency. Librarians sensed a new foreign appreciation and admiration for American democracy among those who followed no-holds-barred reporting and read in-depth accounts of the peaceful transfer of power from Nixon to Ford.

The linkage of our American libraries with today's leaders, and students who will be tomorrow's, has particular significance as increasing numbers in the Far East—and most nations—feel that their future depends so much on the foreign and domestic policies of the United States.

More than ever, people abroad, skeptical of tailored propaganda, seek a view by looking over our shoulders at what we say to ourselves.

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SLA Election Returns

MARK H. BAER has been elected to the office of President-Elect of the Association for 1975/76. Jean Deuss and Lois E. Godfrey have been elected Chairman and Chairman-Elect respectively of the Chapter Cabinet. Shirley Echelman and Judith J. Field have been elected Chairman and Chairman-Elect of the Division Cabinet. The two new Directors, elected for 1975/78, are Robert G. Krupp and H. Robert Malinowsky.

The 1975/76 Board of Directors held its first meeting in Chicago on Friday, June 13.

Miriam H. Tees automatically succeeded Edythe Moore as President; Edythe Moore will serve on the Board as Past President.

Robert L. Klassen and Marian Lechner will serve the third year of their three-year terms (1973/76) as Directors. Joseph M. Dagnese and Constance Ford will serve the second year of their three-year terms (1974/77) as Directors. Janet M. Rigney will serve the third year of her three-year term (1973/76) as Treasurer.

Copyright Hearings

On May 14, 1975, the Subcommittee on Courts, Civil Liberties, and the Administration of Justice of the House Committee on the Judiciary held hearings on the provisions of H.R. 2223 General Copyright Revision Bill as they relate to library photocopying.

Representatives of six major library associations presented unified testimony for the library community to the Committee (Rep. Robert W. Kastenmeier, chairman). The associations are: American Association of Law Libraries, Association of Research Libraries, American Library Association, Medical Library Association, Music Library Association, and Special Libraries Association. The unified statement and SLA's written testimony appear in this issue immediately following this report.

The SLA testimony recommends several changes in the provisions of the copyright bill relating to library photocopying. Three major recommendations in the SLA testimony are as follows:

The existing language of Section 108(a)(1) is: "(1) The reproduction or distribution is made without any purpose of direct or indirect commercial advantage." SLA urges clarification of this language since a majority of special library operations *are* conducted for purposes of "indirect commercial advantage." SLA also urges that Section 108(g)(2) which prohibits "systematic reproduction or distribution of single or multiple copies" be deleted since the word "systematic" has been

shown to have an almost endless number of interpretations during these copyright discussions. The Association recommends a change in language of Section 108(h) such that fair use may be extended to *printed* musical works as distinguished from sound reproductions of musical works.

Testimony for the publishers was presented by Irwin Karp (counsel, The Authors League of America), Charles H. Lieb (copyright counsel, The Association of American Publishers, Inc.), Townsend Hoopes (president, The Association of American Publishers, Inc.) and Dr. Robert W. Cairns (executive director, American Chemical Society).

Karp stated that "Reasonable compensation for *systematic* library reproduction is the real issue." He defined systematic library reproduction as single copy photocopying done in libraries: "The Xerox and other reprographic machines have established a new method of reprint publishing sometimes called 'on-demand publishing,' 'one-at-a-time reprinting,' or 'single copying' (the blander phrase favored by library spokesmen). However labelled, the process disseminates articles, chapter from books or entire works to individual users—by reproducing a single reprint to fill each order, as it is received." Thus, Karp compares library photocopying to reprint publishing.

Cairns asserted that, "We hold no objection to a scholar himself occasionally making a single copy in a non-systematic fashion for

use in his own research. However, in the past decade the techniques of reprography have advanced to such an extent that third parties, human and mechanical, are beginning to be involved in a substantial way." Apparently the American Chemical Society objects to librarians acting as agents for scholars and scientists. He does recognize that ". . . the real problem is inadequate funding at most stages of the communication process (including libraries)."

Lieb defines systematic copying as occurring ". . . when a library makes copies of materials available to users, either directly or through other libraries, under formal or informal arrangements 'whose purpose or effect' is to have the reproducing library serve as the prime source of such material." He then indicates the need to establish workable clearance and licensing procedures and blames the library community "which so far is unwilling to join with us in developing the needed guidelines to distinguish between permissible single copying and systematic copying which requires payment."

Hoopes continues this charge. He states that although the librarians and publishers have been meeting frequently since Dec 1974, "there has not been much progress to date, chiefly because the librarians have refused to accept either the Senate bill or the

guidances suggested by NCLIS and Ms. Ringer as in any way a limiting frame of reference." Thus, Hoopes blames the library community for not attempting to work with the publishers. Since November 1974 there have been continuing and ongoing meetings between publishers and librarians with the publisher representatives amending recommendations from librarians in such a way as to suggest that publishers are attempting to delay action. Hoopes concludes that, "Either the library community as a whole is still attempting to secure *total exemption* [emphasis added] from copyright, and expects to get its way with the Congress; or the attitude . . . reflects a minority view within the library community and is not therefore representative of the whole. In this latter connection, I must say that we are struck by the difference in the attitudes we have found among local librarians and those expressed by the official spokesmen of library associations in Washington. In the field, we have encountered widespread sympathy for and understanding of the basic concept of copyright and of the need for copyright protection, accompanied by a felt need for guidelines that will more precisely determine the dividing line between fair use and infringement."

JDB

**Statement for
Special Libraries Association**

To the Subcommittee on Courts, Civil Liberties, and the Administration of Justice (Representative Robert W. Kastenmeier, chairman)
of the
House Committee on the Judiciary
on May 14, 1975
concerning

**Library Photocopying Provisions of
H.R. 2223 (94th Congress)
the General Copyright Revision Bill**

Special Libraries Association wishes to record its substantial agreement with the provisions of §§ 106, 107 and 108 relating to library photocopying in H.R. 2223 (Revision

of the Copyright Law). We wish, however, to make two specific comments and to urge that two specific changes be made:

- a) To comment on one item in § 107. *Fair use*;
- b) To comment on one item in § 108(a)(1); and
- c) To urge vigorously for changes in two items, in § 108(g)(1) and (g)(2). *Reproduction by libraries and archives*.

Our comments are presented in the sequence:

1. Identification of Special Libraries Association and Its Interests. [omitted here]
2. Comments on § 107. Fair Use.

3. Comments on § 108. Reproduction by Libraries and Archives.

3.1 § 109(a)(1)

3.2 § 108(g)(1) & (g)(2)

3.3 § 108(h)

4. Conclusion.

2. Comments on § 107. Fair Use.

The Association is in agreement with the delineation of “fair use” as stated in § 107. We feel, however, that it is necessary to comment specifically on one phrase in Item (4):

- (4) the effect of the use *upon the potential market or value* of the copyrighted work. [Emphasis indicated.]

We recognize that there may be some validity in the claims of some publishers of periodicals that they may have some loss of income due to multiple photocopying of a single article from an issue of the periodical that is *still available in-print*. If the issue is *out-of-print* (that is, if the publisher has not maintained his stock in-print or in-stock), it is difficult to conceive how a photocopy of *out-of-print* material can cause any loss of income to the publisher.

Further, the slow delivery by publishers to fulfill an order for a single in-print issue is totally unacceptable to the needs of our specialized users who are responsible for fast management decisions. There is little question that it is an administrative impossibility to secure publisher permissions to permit interlibrary response within any reasonable time. Moreover, the costs and delays in seeking such permissions would be prohibitive.

It is also necessary to note that the preparation of photocopies of periodical articles in libraries can not cause a loss of income to the authors. Authors are rarely paid by publishers of learned or trade periodicals (either as a one-time payment or as royalty payments). Indeed, the opposite direction of payment has become prevalent in recent years: a “page charge” is to be paid by the author or his employer to the publisher. These page charges are usually in the range of \$50-\$100 per printed page.

3. Comments on § 108. Reproduction by Libraries and Archives.

3.1 *Section 108(a)(1)*.

The Association is concerned with a possible interpretation of § 108(a)(1):

- (1) The reproduction or distribution is *made without any purpose of direct or indirect commercial advantage*; [Emphasis added.]

Clarification of the meaning of the existing language is necessary because a majority of special library operations *are* conducted for purposes of “indirect commercial advantage” when the library’s parent organization is in the business, industrial, or financial communities through its products and services. It occurs to us that the existing language of § 108(a)(1) may have been intended to prohibit a “commercial advantage” to an authorized or unauthorized reprinter or republisher of copyrighted materials.

We feel that our concerns can be alleviated by either of two actions:

- (a) by adding to § 108(a)(1) a phrase such as
The reproduction or distribution is made without any purpose of direct or indirect commercial advantage *to a reprinter or a republisher* [Suggested addition italicized.]; or
(b) through appropriate commentary in the legislative history of H.R. 2223 without any change in § 108(a)(1) as now written.

Legislation to be enacted must not prevent or penalize the preparation of photocopies by any library. SLA is, of course, particularly concerned about the status of specialized libraries—especially those in for-profit organizations. There will be immeasurable damage to the total economy and welfare of the nation if such intent were to be contained in the enacted version of H.R. 2223, or if such interpretation is possible after enactment of the law. The rapid transmission of man’s knowledge—either to not-for-profit or to for-profit organizations—must not be impeded by law.

Whether libraries request or produce photocopies, the libraries are acting solely as the agents for the individual and distinct users of libraries who in their totality represent *all strata* of our American society.

3.2 *Sections 108(g)(1) and 108(g)(2)*.

Major concerns are raised by § 108(g) which was inserted *after* Senate hearings on S.1361 (93rd Congress). We wish to submit emphatic comments first on § 108(g)(2) and then to return to § 108(g)(1).

- (2) Engages in the *systematic reproduction or distribution of single or multiple copies* or phonorecords of material de-

scribed in subsection (d). [Emphasis added.]

The Report accompanying S.1361 (93rd Congress) indicated that it had not been possible to formulate specific positive examples of "systematic copying." If only negative examples can be developed, can there be any logical basis for the insertion of § 108(g)(2)?

The Association urges that § 108(g)(2) be:

- (a) Deleted entirely, or
- (b) That it be amended by adding a concluding clause to read:

. . . of material described in subsection (d) so as to impair the potential market for a copyrighted work. [Suggested addition italicized.]

The Association is concerned that the inclusion of § 108(g)(2)—as now stated—in any final Act will seriously impede the spontaneity of research and the research capability of organizations that maintain special libraries and information centers whose purpose is to provide access to learned, technical, or specialized publications.

We are particularly concerned about any future construction that could be placed on allegations of "systematic reproduction or distribution" in § 108(g)(2). The single word "systematic" has been shown to have an almost endless number of interpretations during the discussions of the "Conference on the Resolution of Copyright Issues" (Nov 1974—Apr 1975). The Conference was jointly convened by the Register of Copyrights and the chairman of the National Commission on Libraries and Information Science.

It is important to recognize that all libraries act only as agents for their clients who request and receive the photocopies. Inclusion of the word "systematic" does not seem to comprehend the operations of libraries—or the nature of the requests from the clients of libraries. Libraries provide photocopies of current or past publications in response to *single*, SPONTANEOUS requests from the library's clients. Research workers are often thought to be isolated individuals, but research itself is not an isolated activity. Therefore, SPONTANEOUS, isolated—*yet single*—requests for photocopies of the same article or segment in a copyrighted publication may be received from more than one requestor—each acting independently and spontaneously.

The word "systematic" has also been suggested to mean "within a library system." Library systems have been in existence for

many years: public library systems in cities or in counties, or multiple special libraries within a corporation or within a government agency. In more recent years, the concept of broader library systems (regional or statewide) has grown. Such systems have many other meaningful functions other than the preparation of photocopies so as to achieve economies in library functions (for example, shared cataloging, the acquisition of foreign publications or of rare and unusual materials, and the improved access of all citizens to informational materials of all kinds). Although publisher representatives have made claims that the number of subscribers has been diminished because of the existence of library systems, no evidence has been presented that any loss of subscription income has occurred.

The above comments regarding § 108(g)(2) are also applicable to § 108(g)(1):

- (1) is aware or has substantial reason to believe that it is engaging in the related or concerned reproduction or distribution of multiple copies . . . *whether made on one occasion or over a period of time, and WHETHER INTENDED FOR AGGREGATE USE BY ONE OR MORE INDIVIDUALS OR FOR SEPARATE USE BY THE INDIVIDUAL MEMBERS OF A GROUP; . . .* [Emphasis added.]

If a number of single, isolated, spontaneous requests are received over a period of time (italicized emphasis above), a library cannot become aware of such a series of events without instituting an extensive and costly system of records of past transactions.

In the case of multiple copy requests (small capital emphasis above), payment of a *per page* copying fee to the publisher may be thought to provide an equitable solution provided that the costs to libraries for such reporting and payment mechanisms not be disproportionately great in relation to the copying fees to be paid. However, the two possible mechanisms proposed for payment of such copying fees *completely negate* the concept of "fair use" as stated in § 107. The two mechanisms proposed are:

- (a) A variable subscription pricing structure with a higher cost to libraries than to individuals. Thus the library would have paid a fee even if no photocopy is requested.
- (b) A transaction fee per page would result in the payment of a fee even for the first

photocopy of an item prepared unless the library were to set up a costly record keeping operation of all past photocopy requests.

Discussions in past years had suggested a range of fees from \$0.01 to \$0.10 per page. In the immediate past months, publisher representatives at meetings of the Conference (referred to above) have indicated that they wish to receive a higher fee which they will determine individually for each article in each periodical rather than a per page charge. It must be noted that many photocopy requests are for only one page or a few pages of an article. Thus, this proposal also would be unduly costly to libraries and their users.

Should the final result of the proposed legislation be a copying fee payment, the price level of the copying fee must be subject to determination by legislative or regulatory action. Otherwise it is conceivable that a publisher might choose to set the level of a copying fee—whether for multiple copies or single copies—at such a high level that access to some areas of published information could be effectively prevented.

3.3 Section 108(h).

The Association feels that there is a real need to distinguish between two formats of "musical works":

- (a) Printed musical works, and
- (b) Sound reproductions of musical works.

To achieve this distinction, we suggest two possible amendments to § 108(h):

- (1) Delete the words "a musical work" because performances are included in the subsequent phrase, "or other audiovisual work," or
- (2) Add a modifying statement so that § 108(h) will read:

The rights of reproduction and distribution under this section do not apply to a musical work *other than a printed copy* . . . [Suggested words are italicized.]

It is important that research workers and students of musicology be allowed "fair use" access to portions of printed music just as § 108(a)(2) permits "fair use" access to textual materials. In § 108(h) a clear distinction must be made between performances or sound recordings and music in printed form.

4. Conclusion.

Public libraries have been historically a fundamental development by and for the people of the United States. The initiation and growth of specialized libraries represent a unique development in the United States beginning with the Library of the Carpenters' Company of Philadelphia before the American Revolution; and also a concept which has spread throughout the world.

Whether the main function of a library is public, school, university or specialized, all libraries strive to improve and increase ready access by the library's clients to information that will enrich the personal aspirations of the library users, the quality of our communities (whether urban, suburban or rural), and the improvement of the economic standards of all segments of our nation's citizens (minority groups and the disadvantaged as well as the advantaged).

We recognize the importance of the legislative protection of copyright for publishers to prevent improper or unfair diversions from their rightful profits. We also recognize the importance of copyright protection for creative authors to prevent diversions from their rightful earnings.

Apparently, publishers feel that their profit patterns will be improved by receiving photocopying fees. However, the establishment of library photocopying fees will result in the subsidization of the publishing community at the expense of all taxpayers. Public libraries and those in tax-supported schools and universities would have to seek increased public funds annually. Special libraries in business and industry would have to seek increased budget allotments within their corporation. As the expenses of a corporation increase, such expenses can lead only to increased costs to the ultimate consumers of new products or of improved old products.

We ask that the Subcommittee consider the distinction between the photocopying practices *in and by* libraries on behalf of library users, which we deem to be proper, and the practices *outside* of libraries which are improper and which preempt the legitimate property rights of copyright owners.

Special Libraries Association is grateful to the Subcommittee for the opportunity to present our views. The Association will be pleased to submit additional comments if the Subcommittee desires so to assist the Congress in reaching an ultimate and equitable solution to an issue that has values for all citizens.

Statement for American Association of Law Libraries, American Library Association, Association of Research Libraries, Medical Library Association, Music Library Association and Special Libraries Association

To the Subcommittee on Courts, Civil Liberties, and the Administration of Justice (Representative Robert W. Kastenmeier, chairman)
of the
House Committee on the Judiciary
on May 14, 1975
concerning

Library Photocopying Provisions of H.R. 2223 (94th Congress) the General Copyright Revision Bill

The testimony that follows was presented by Edmon Low (director, New College Library, Sarasota, Fla.) on behalf of the six above associations. He was accompanied by representatives of the other associations to answer special questions relating to the particular interests of their organizations.

The representatives were: American Association of Law Libraries, Julius J. Marke, Chairman of the AALL Copyright Committee; Association of Research Libraries, John P. McDonald, Executive Director; ARL counsel, Philip B. Brown of the law firm Cox, Langford, and Brown, Washington, D.C.; American Library Association, Edmon Low, ALA Copyright Subcommittee; ALA counsel, William D. North of the law firm Kirkland and Ellis, Chicago; Medical Library Association, Joan Titley Adams, Chairman, MLA Copyright Committee; Music Library Association, Susan Sommer, Director, Music Library Association and Chairman of its Copyright Subcommittee; Special Libraries Association, Dr. Frank E. McKenna, Executive Director; James A. Sharaf, Counsel of the Harvard University Library.

We are here today to talk about library copying and the provisions of the copyright revision bill (H.R. 2223). Because our time for presentation of testimony is very limited, I shall be presenting so far as I am able in the time allotted the concerns of all these various groups. However, each of these organizations will also be filing a statement of its own setting forth in greater detail its individual concerns about provisions of the bill, and all of these representatives will assist me in answering particular questions

you may have concerning our testimony and the issues raised. Although our testimony today is limited to library photocopying which is the subject of this hearing, there are other provisions of the bill which concern us and about which we may be making further statements as other hearings are scheduled.

I would like first to point out that, although this copyright revision bill has been under consideration for ten years, the library photocopying issue is still an important unresolved subject. In brief, the question which Congress must decide is whether libraries will be permitted—at no additional expense—to continue to serve the public by the long-standing practice of providing single copies of copyrighted material for a user's research or study. It is an issue with direct and widespread impact on the general public. It involves both the right of access to library materials and the cost of that access.

In the past year there have been two major developments affecting this question. In the first case ever brought by a publisher, the Williams & Wilkins Company, the courts have upheld the photocopying of single copies of copyrighted medical journal articles as being within the doctrine of fair use and not constituting infringement of copyright. It is in part because this case consumed seven years and major financial outlay that libraries are concerned about the second major development, which is the introduction last year into the Senate bill, without any hearing, of a new and undefined limitation on the rights of libraries, namely, the concept of "systematic reproduction" of either single or multiple copies of copyrighted material.

Now, when we talk about library copying we are not talking about something for the benefit of libraries or librarians, we are talking about something that is carried on for the benefit of users of libraries who include citizens from all walks of life throughout the country. When we talk about library copying practices, we are talking about the schoolboy in California who may need a copy of an article in the *Los Angeles Times* for a project he is working on in his ninth-grade class; we are talking about a judge in a county court in Middlesex County, Massachusetts, who may find he needs a copy of a law review article which bears directly upon a difficult question of law which has arisen in the course of his work; we are talking about a doctor in downstate Illinois who has a patient with an unusual and rare disease and the only recent material to be

found is contained in an obscure journal published in Sweden and available only through the Regional Medical Library System, but which article may aid him in saving his patient's life; we are talking about a Member of this Committee asking the Congressional Reference Service of the Library of Congress for an article dealing with copyright; and we are talking about a musician who is preparing a scholarly article on the music of Mozart and needs to take with him to his study a copy of a portion of a recently edited score of one of Mozart's works with which he is concerned. The list is endless, but I wish to emphasize that we are talking about an issue that very broadly affects the ability of people in this country to make use of their libraries which are the repository and storehouse of man's knowledge.

It should be noted here that copyright is not a constitutional right, such as trial by jury of one's peers. The Constitution simply authorizes Congress to create the right. It is therefore a statutory right—one created by law—and may be changed, enlarged, narrowed, or abolished altogether by the Congress here assembled. It is a law enacted not for the benefit of an individual or a corporation but for the public good and with the purpose, as the Constitution expresses it, "to promote the progress of science and useful arts." Consequently, in revising the copyright law the problem for Congress is to design provisions which both encourage the creation of original works and permit the widest possible access to and dissemination of information to the public; and, where these goals compete, to strike a balance which best serves the fundamental objective of promoting learning, scholarship, and the arts.

It is now generally understood that a single collection of books or other recorded forms of thought as represented by any library can contain only a fraction of the total amount of material in existence. Even the Library of Congress, possibly the largest single collection of materials in the world, does not have many thousands of titles which exist in the United States, to say nothing of those elsewhere in the world, while on the other hand even a relatively small library will often have titles not found anywhere else in the country. The location and cataloging of these titles, and of articles and journals, and the making of some available readily through photocopying or loan—the dissemination of knowledge—is indispensable to education and research and often involves the reproduction by photocopying

of a portion of a monograph or a journal article protected by copyright.

Library photocopying may be roughly divided into two groups, the first being that done either by a member of a library staff or by the user himself from material in the library for immediate use on the premises or nearby; the second, that done by one library for and at the request of another library, often some distance away, for use by one of its patrons there. The first is often designated "in-house" copying, while the second we usually refer to as "interlibrary loan." The first is often necessary if a patron is to compare and study several articles from large bound reference volumes, as for instance a student writing a term paper in the library. The second is of vital importance in that the scholar or other user does not have the document in hand and therefore it is his only practical access to what may be highly important material for information or research.

At present I am Director of the New College Library at Sarasota, Florida. New College is a small, but very fine, private college and its problems in this connection are typical of the two thousand small and medium-sized colleges throughout the country. While our library is liberally supported and spends every cent it can afford on periodical subscriptions, we cannot possibly have the large resources of a university like the one at Gainesville or at Tallahassee. Yet our faculty members, if they maintain a good quality of teaching and do the research which contributes to it, must have access by random photocopying at times to the larger collections in the state and elsewhere.

It is usually not known that the interlibrary loan arrangement often encourages the entering of additional subscriptions by the library rather than reducing the number as is often charged. It is a truism that a librarian would prefer to have a title at hand rather than to have to borrow even under the most convenient circumstances. Consequently, when the time comes around each year to consider the list of periodical subscriptions, the record of interlibrary loans is scanned and titles are included from which articles have been requested with some frequency during the year. While the situation varies, in our library the number is two; if we have had two or more requests for articles from the same title during the year, we enter a subscription. This not only indicates how the procedure can help the periodical publishers, but also indicates that if only one article or none was copied from a

title during a year, the journal could not have been damaged materially in the process. It is not only the small schools which would suffer if such photocopying were eliminated, however; the scholars at Wisconsin or Michigan would also be severely put to it to continue their research in the same way, and it is these scholars who account for the major writing for the scholarly journals. The journals themselves, therefore, have a stake in seeing this procedure continued in a reasonable way.

Courts have long recognized that some reproduction of portions of a copyrighted work for purposes of criticism, teaching, scholarship or research is desirable and this judicial concept, known as "fair use," is incorporated in Section 107 of the revision bill. Libraries have operated all these years under this principle, but it does lack the assurance of freedom of liability from harassing suits which the librarian needs in his work. This fair use concept is necessarily expressed in general language in the bill, so a librarian will not be able to be sure, until a court decides a particular case, whether his action, undertaken with the best of intentions to aid a patron, is or is not an infringement. This is pointedly illustrated by the recently decided, previously mentioned case of *Williams & Wilkins vs. the National Library of Medicine and the National Institutes of Health* for photocopying. This suit was instituted in 1968 and only now after years of litigation and expenditures of many thousands of dollars on each side has it been determined that the defendants were properly obeying the law after all. Fair use, then, is not really a right to copy any given thing, but only a defense to be invoked if one is sued. This threat of suit, even if one is able to maintain his innocence in court, is very real because suits are costly in proportion to the amount for which one is sued. This revision bill provides not only for demand for actual damages, but also one can be sued for statutory damages up to a limit of \$50,000 for each imagined infringement. Thus, harassing but unjustifiable suits are really invited by this bill.

In light of the above, we librarians believe that in addition to Section 107 delineating fair use, further protection is needed to assure that it is permissible to make a single copy as an aid in teaching and research, including a single copy as part of an interlibrary loan transaction, and that such activity, in behalf of the public good, is not subject to possible suit. This assurance

has now been largely provided in parts of Section 108 (a) through (f), for which we are very appreciative. However, we are greatly concerned with the addition of subsections 108 (g)(1) and (2), and (h), which take back the very rights set forth in 108 (a) through (f). These are provisions which came into the bill in the Senate after hearings were concluded in 1973, without the opportunity for discussion by library representatives with Senator McClellan's Subcommittee. Today's hearings are the first opportunity we have had to express publicly our very deep concern.

Before discussing subsections (g) and (h), I would like to note there is also a particular problem in the interpretation of Section 108 (a) which can affect specialized libraries in business, industry, and commerce. This is discussed in the individual statement of the Special Libraries Association.

Subsection (g)(1) gives us concern because often there is no basis for a library employee to judge whether a request for a copy represents "isolated and unrelated reproduction" as specified in Section 108 (g)(1). For example, if a college instructor in a graduate seminar in English were to recommend to his students, some ten men and women sitting around a table, that they read an article on Milton's poetry that appeared ten years ago in *Publications of the Modern Language Association*, and if two of them over the next week were to go to that college's library and look at that article and decide that they wanted to take copies back to their dormitory for further study, we don't see how there is any practical way in which a library can prevent that kind of reproduction of a single copy on separate occasions, and we don't think they should have to. And yet, the Senate Committee report on S. 1361 (S. Rept. 93-983) cites such an instance.

Section 108 (g)(2) says that the rights of reproduction and distribution do not extend to a library which "engages in the systematic reproduction or distribution of single or multiple copies or phonorecords of material described in subsection (d)." The materials referred to in (d) are journal articles or small portions of other copyrighted works.

The question immediately arises as to what constitutes systematic reproduction. To the extent that we are able to puzzle it out, it appears to have been aimed at practices of the kind which were upheld as fair use by the Court of Claims in the *Williams & Wil-*

kins case. In listening to my publisher and author friends, the preeminent example which they give of systematic reproduction has always been the Regional Medical Library System, with the National Library of Medicine at its apex. Those practices of the National Library of Medicine were, of course, upheld by the Court of Claims in Williams & Wilkins in a decision which was affirmed this year by the United States Supreme Court.

Now, how does the Regional Medical Library system really work? Well, it starts off with the user, who discovers that he needs access to some particular information, often found in an article in a professional journal in the biomedical field. He usually starts off by going to the library in the hospital with which his practice is affiliated, and may find it there. If it is one of the most important journals, the hospital may well have it. But, since there are thousands of journals in the medical and health sciences field, the chances are that the hospital library may not have this, particularly if it is older material. The request would then go to one of the eleven Regional Medical Libraries over the country which are supported by Congress, and from there as a last resort to the top of the pyramid which is the National Library of Medicine and which now has over 25,000 different journals, the biggest medical collection in the world. It is obviously not possible for the smaller hospital library, or sometimes even the Regional Medical Library, to have a sizable portion of this vast amount of material, so some kind of access, such as photocopying, must be relied upon to get the information to the doctor or the other health professional when urgently needed. This kind of organization of access to scientific and technical knowledge seems to us to be the intelligent way of doing things. It should be noted also that the Regional Medical Libraries are not only striving to augment their collections as rapidly as possible but likewise are urging the smaller hospital libraries to upgrade theirs, thus providing all along the line an ever-increasing number of subscriptions with accompanying increased financial gain for the publishers. Mrs. Joan Titley Adams, of the Medical Library Association, who is with us here today, can provide for any of the Committee members who are interested further details about this highly significant work in the medical and health fields.

Another large and highly important type of system for which this systematic reproduc-

tion poses problems is that of the county and multi-county library systems throughout the whole country. These libraries came into being largely through the opportunity provided by the federal Library Services and Construction Act. This was and still is an effort to bring books and other library materials to the millions of people, often in rural areas, who had not heretofore had library service available. To get counties to join together, vote the necessary taxes, agree on a common governing board, and gain consensus on the sites for a central library and for the smaller satellite libraries in the system is a difficult task. It is often made possible only by the promise to the citizens of much broader areas of information which will be made available to them not only from their small but growing collection in each neighborhood, but also through loans from the central library and through it from larger collections elsewhere. In this, some copying of periodical articles is occasionally involved, but it does not result in fewer subscriptions—in fact, before the founding of many of these libraries there were no periodical subscriptions at all in the area.

Because interlibrary loan is one of the vital elements in this concept which has been so mutually beneficial to all, it is urgent that no restrictions be imposed which would diminish the effectiveness of the program. Such a diminution, if it occurred, would be as much against the interest of the publishers as against the citizens the libraries serve. Let me give you an illustration from my home state of Oklahoma which I know well. A few years ago, the Western Plains Library System was established consisting of four counties in Western Oklahoma. At the time of its organization, there was a single library in each of two counties. The other two had no libraries. Now there are seven libraries in the four counties and two bookmobiles are operating regularly. At the beginning the two original libraries subscribed to 20 periodicals between them. The seven libraries now subscribe to over 300. The combined annual book budget of the two original libraries was under \$2500. The annual book budget for the seven is now \$42,000. In addition, they have encouraged school libraries to develop collections of periodicals and books and are now promoting with success the creation of home collections of books and periodicals. This tremendous increase in acquisition of materials has obviously benefited the publishers of materials as well as the citizens the libraries serve.

This kind of multi-county library is now found in every State in the Union, and over the two decades the Library Services and Construction Act has been in existence millions of dollars of federal money and matching local funds have been expended for this kind of service. The importance of this activity was recognized in the Senate report last summer accompanying S. 1361 (S. Rept. 93-983) in the portion discussing systematic reproduction by saying, "The photocopying needs of such operations as multi-county regional systems must be met," but no provision was made in the law to specifically provide for these needs. Section 108 (g)(2) would prohibit their copying activity and do much mischief indeed.

It was also pointed out to our publisher friends that many systems are not organized for the purpose of copying materials of any kind. For example, one of the large "systems" is SOLINET, an acronym for Southeastern Library Network. This is a group of about 100 libraries in the Southeastern States devoted solely to providing centralized cataloging and catalog card preparation and distribution to member libraries. Other systems have the purpose of encouraging the building of better library collections and the bringing to the area more journals, sets and bibliographies not now represented in the areas. To say that a library merely because it happens to belong to such a "system" is prohibited from photocopying where if it did not belong, it would be permitted to do so, seems to us farfetched indeed.

We are also concerned with Section 108 (h) which would limit the rights otherwise granted under Section 108 by excluding a musical work, pictorial, graphic and other audiovisual works. These exclusions are illogical. The need of the scholar doing research in music for a copy of a portion of a score is as legitimate and proper as that of the scholar doing any other kind of research. Likewise, the copying of one map from an atlas or a page of diagrams and plans from a technical journal may be just as important as any other kind of material for research.

It seems to us that libraries ought to be encouraged to collect and preserve all of the forms in which knowledge is published and distributed, and that it should be possible for users of libraries to have access for their study and scholarship to all of these forms, not just some of them. If a student of the cinema asks a library to make a copy for him of a few selected frames of some famous motion picture which is being studied, so that

he may consider at his leisure a certain key point which is made in an article he is reading, we think the library ought to be able to do that.

Mrs. Susan Sommer of the Music Library Association is with us today and can provide further information about the problems posed by this section of the bill in relation to music. Dr. Frank McKenna, of the Special Libraries Association, is also here and can discuss the problems in relation to atlas or other graphic materials in books and periodicals.

In reporting S. 1361 last July, the Senate Judiciary Committee recommended that "representatives of authors, book, and periodical publishers and other owners of copyrighted material meet with the library community to formulate photocopying guidelines to assist library patrons and employees." And concerning library photocopying practices not authorized by the reported bill, the Committee recommended "that workable clearance and licensing procedures be developed."

In response to this request by the Senate Judiciary Committee, representatives of the different views on this subject were convened in November 1974 by invitation of the Register of Copyrights and the Chairman of the National Commission on Libraries and Information Science. The resulting "Conference on Resolution of Copyright Issues" established a smaller working group to carry out preliminary discussions. The working group and several subcommittees have since met on frequent occasions to consider and prepare papers on a variety of technical and procedural matters.

There are, of course, different views of the significance of the work performed to date by the Conference and its working group. The work has focused upon the mechanics and the feasibility of possible mechanisms for collecting payments for photocopying of copyrighted materials. *It must be emphasized, however, that there has been no agreement as to whether such a payment mechanism is acceptable to libraries even if it is workable, and also I may say no seemingly workable mechanism has yet been advanced in that it still appears it would take dollars to collect dimes.* There has also been no agreement as to the categories of publications to which such a mechanism should be applied and no change in the position of libraries that their current photocopying practices are entirely lawful and within the fair use holding of the Williams & Wilkins case,

and should not in any respect be treated as infringing rights of the copyright proprietor in the provisions of any new legislation.

The publishers will probably tell you that they, too, are for photocopying but they want money for it without any outlay or trouble on their part. I should like to point out some reasons why licensing and payment of royalties by libraries for the photocopying they do is not justified. First, many publishers already have variable pricing for journals; that is, they charge a considerably higher price for the same journal for a library subscription than for an individual subscription. These prices to libraries often run quite high—subscriptions of \$100 to \$300 per year are not uncommon; a few run \$1,000 or more; and the \$50 to \$100 price is quite commonplace in the scientific field. These higher subscription prices to libraries presumably are designed in many cases to include charges for anticipated copying. Some journal publishers have received substantial federal assistance in modernizing their editorial and manufacturing procedures. Other journals, and also some of those just mentioned, have already had major contributions of public funds in the nature of per-page charges, usually in the range of \$50 to \$100 per printed page paid by the author or by a federal grant which is financing his work. The author is usually not paid by the publisher for his work in writing the article but the library or the institution where the author is located often spends a sizable amount for interlibrary loan postage and handling to aid him in preparation of his article which the periodical then receives without cost. As an example, my own small library spent during this past year over \$100

on interlibrary loan expense for books to enable a professor to write an article for an historical journal, but the journal did not pay him anything for the article.

In light of these contributions which the libraries and the public already make to the publication of these works, it seems unreasonable for journal publishers to demand still further payment from libraries, and eventually the public, for the occasional photocopying of individual articles for library users. It seems even more unreasonable in view of the fact that by making the information concerned available to those with current, specific needs for it, library photocopying fosters the basic purpose of the authors of such articles. But when it is also noted that there is no evidence that the libraries' policies have caused publishers any harm whatsoever and may actually increase their subscriptions, it is clear that such demands are completely unjustified and the public interest requires that they be rejected by Congress.

For the reasons we have advanced above, we urge that Sections 108 (g)(1) and (2) and (h) be deleted from the bill. This would also be in accord with the Williams & Wilkins decision and would permit libraries to continue the long established library service of providing a single photocopy of a single article or excerpt from a copyrighted periodical or book for a patron's use without incurring liability for copyright royalties.

It has been a pleasure to appear before you today, Mr. Chairman, and I assure you that we are ready to be of assistance in any way we can toward a satisfactory resolution of this very difficult but important problem.

**Library Photocopying Sections
of
H.R. 2223 (94th Congress)
the General Copyright Revision Bill**

**§ 107. Limitations on Exclusive Rights:
Fair Use**

Notwithstanding the provisions of section 106, the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by that section, for purposes such as criticism, comment, news reporting, teaching, scholarship, or research, is not an infringement of copyright. In determining whether the use made of a work in any par-

ticular case is a fair use the factors to be considered shall include:

- (1) the purpose and character of the use;
- (2) the nature of the copyrighted work;
- (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
- (4) the effect of the use upon the potential market for or value of the copyrighted work.

**§ 108. Limitations on Exclusive Rights:
Reproduction by Libraries and
Archives**

- (a) Notwithstanding the provisions of sec-

tion 106, it is not an infringement of copyright for a library or archives, or any of its employees acting within the scope of their employment, to reproduce no more than one copy or phonorecord of a work, or distribute such copy or phonorecord, under the conditions specified by this section, if:

(1) The reproduction or distribution is made without any purpose of direct or indirect commercial advantage;

(2) The collections of the library or archives are (i) open to the public, or (ii) available not only to researchers affiliated with the library or archives or with the institution of which it is a part, but also to other persons doing research in a specialized field; and

(3) The reproduction or distribution of the work includes a notice of copyright.

(b) The rights of reproduction and distribution under this section apply to a copy or phonorecord of an unpublished work duplicated in facsimile form solely for purposes of preservation and security or for deposit for research use in another library or archives of the type described by clause (2) of subsection (a), if the copy or phonorecord reproduced is currently in the collections of the library or archives.

(c) The right of reproduction under this section applies to a copy or phonorecord of a published work duplicated in facsimile form solely for the purpose of replacement of a copy or phonorecord that is damaged, deteriorating, lost, or stolen, if the library or archives has, after a reasonable effort, determined that an unused replacement cannot be obtained at a fair price.

(d) The rights of reproduction and distribution under this section apply to a copy, made from the collection of a library or archives where the user makes his request or from that of another library or archives, of no more than one article or other contribution to a copyrighted collection or periodical issue, or to a copy or phonorecord of a small part of any other copyrighted work, if:

(1) The copy becomes the property of the user, and the library or archives has had no notice that the copy would be used for any purpose other than private study, scholarship, or research; and

(2) The library or archives displays prominently, at the place where orders are accepted, and includes on its order form, a warning of copyright in accordance with requirements that the Register of Copyrights shall prescribe by regulation.

(e) The rights of reproduction and distribution under this section apply to the entire work, or to a substantial part of it, made from the collection of a library or archives where the user makes his request or from that of another library or archives, if the library or archives has first determined, on the basis of a reasonable investigation that a copy or phonorecord of the copyrighted work cannot be obtained at a fair price, if:

(1) The copy becomes the property of the user, and the library or archives has had no notice that the copy would be used for any purpose other than private study, scholarship, or research; and

(2) The library or archives displays prominently, at the place where orders are accepted, and includes on its order form, a warning of copyright in accordance with requirements that the Register of Copyrights shall prescribe by regulation.

(f) Nothing in this section—

(1) shall be construed to impose liability for copyright infringement upon a library or archives or its employees for the unsupervised use of reproducing equipment located on its premises, provided that such equipment displays a notice that the making of a copy may be subject to the copyright law;

(2) excuses a person who uses such reproducing equipment or who requests a copy under subsection (d) from liability for copyright infringement for any such act, or for any later use of such copy, if it exceeds fair use as provided by section 107;

(3) in any way affects the right of fair use as provided by section 107, or any contractual obligations assumed at any time by the library or archives when it obtained a copy or phonorecord of a work in its collections;

(4) shall be construed to limit the reproduction and distribution of a limited number of copies and excerpts by a library or archives of an audiovisual news program subject to clauses (1), (2), and (3) of subsection (a).

(g) The rights of reproduction and distribution under this section extend to the isolated and unrelated reproduction or distribution of a single copy or phonorecord of the same material on separate occasions, but do not extend to cases where the library or archives, or its employee:

(Continued on page 405.)

Washington Letter May 16, 1975

White House Conference on Library and Information Services

Planning for the White House Conference on Library and Information Services is at a stand-still awaiting the issuance of the Presidential call for the Conference and the submission of a budget request. In accordance with provisions of the enabling act P.L.93-568, appointees to the Advisory Committee on the White House Conference have been designated by the Senate President pro tempore, the Speaker of the House, and the National Commission on Libraries and Information Science. Appointees to be named by the President (up to 15 in number) have yet to be designated. NCLIS appointees, announced last January, are: Louis A. Lerner, Bessie Boehm Moore, and John E. Velde, Jr. Senate appointees, announced on April 18 by Senator James Eastland, are: J. C. Redd of Jackson, Mississippi; Margaret Warden of Great Falls, Montana; Virginia Young, Columbia, Missouri; John T. Short, Simsbury, Connecticut. House appointees, announced by Speaker of the House Carl Albert on May 6, are: Representative William D. Ford (D. Michigan); Gene Shalit of New York City; Mrs. Allie Beth Martin, Tulsa, Oklahoma; Mrs. Jeanne Hurley Simon of Carbondale, Illinois; and Michael A. McCarroll of Lexington, Massachusetts.

June 5, 1975

Science Policy and a Science Information Corporation

The lack of an effective executive branch mechanism for developing, coordinating, and administering national science policies and programs continues to plague the science community and Congress. Members of the Senate Committee on Aeronautics and Space Science and the House Committee on Sci-

ence and Technology met with the President on May 22 to discuss the position of science adviser to the President. These committees are currently considering legislation on the formulation and implementation of national science policy. They were encouraged to learn from the President that there will be a science and technology adviser to the President.

It has been reported that various proposals submitted by Vice President Rockefeller have not been acceptable because President Ford is anxious not to inflate Executive Office and White House staff at this time of budget stringency. However, there has been no further elaboration of White House thinking on the nature of a presidential science advisory structure other than confirmation of an Associated Press story that the President is considering a "small board of science advisers, possibly consisting of three consultants." In the meantime Congress is moving ahead with legislation seeking to reconstitute executive branch machinery for coordinating federal scientific research and development programs.

On January 15 Senator Kennedy reintroduced S.32, "The National Policy and Priorities for Science and Technology Act of 1975," which passed the Senate in the closing days of the 93rd Congress. On the same day Senator Mathias introduced S.79, to establish the United States Science and Technology Board. On March 6 Congressman Olin E. Teague, Chairman of the House Committee on Science and Technology, with the cosponsorship of the ranking minority member of the Committee, Charles Mosher, introduced H.R. 4461, "The National Science Policy and Organization Act of 1975."

The Teague-Mosher bill offers a distillation of the findings of five years of study and investigation by the Committee and draws on recommendations presented in two prior Committee reports: "Toward a Science Policy for the United States," issued in October

1970 and "Federal Policy, Plans, and Organization for Science and Technology," issued in July 1974. The purpose of the bill is to 1) enunciate a national science policy; 2) establish a Council of Advisers on Science and Technology in the Executive Office of the President; 3) provide administrative unity and coordination of federal R&D agencies through the innovation of a staff-function, cabinet-level Secretary of Research and Technology Operations; and 4) consolidate and make compatible the operations of various federal science information agencies under a new government corporation to be known as the Science and Technology Information and Utilization Corporation, with special ties to the private sector.

In presenting the bill, Representative Teague explained that it was not intended as a finished product but rather a stepping stone to provide a focus for mature discussion leading to the enactment of a statutory science policy.

Title IV of the bill is of special interest to the library community. It provides for the merging of various federal information agen-

cies into a single government Corporation "to insure the fullest possible use of the scientific and technological information generated at public expense." Agencies to be transferred to the Corporation include the National Technical Information Service of the Department of Commerce; the Science Information Exchange of the Smithsonian Institution; the Office of Science Information Service, and the Science Information Council of the National Science Foundation.

Section 404 of the proposal spells out the powers and functions of the Corporation authorizing it, among other duties, to oversee, manage, direct, and coordinate the operations transferred to it; to review the operations, functions, programs, activities, budgets, personnel, and organization structures of the transferred agencies; to promote and establish intensive and extensive interaction between the Corporation and the private sector in order to develop more efficient and orderly processes of dissemination and utilization of scientific information.

Ruth Fine
Washington, D.C.

COMING EVENTS

Sep 9-11. National Micrographics Association, Workshop . . . San Francisco. Four topics are scheduled: fundamentals, retrieval and systems design, inspection and quality control, and COM. Fees: \$100 for the first day, \$75 for each additional session. Contact: Jack Hess, National Micrographics Association, 8728 Colesville Rd., Silver Spring, Md. 20910.

Sep 11-12. National Conference on Software Engineering . . . Mayflower Hotel, Washington, D.C. Sponsors: U.S. National Bureau of Standards and IEEE Computer Society. Write: Software Engineering, P.O. Box 639, Silver Spring, Md. 20901.

Sep 15-26. 33rd Institute: Introduction to Modern Archives Administration . . . National Archives Building, Washington, D.C. Three semester credits available from the Department of History, American University. Write: Department of History, 33rd Archives Institute, The American University, Washington, D.C. 20016.

Sep 18. Conference on Health Information Services . . . School of Library Science, University of Iowa. Topic: Public Access to Health Information Through Library Services. Write: Ethel Bloesch, School of Library Science, 3087 Library, Iowa City, Iowa 52242.

Sep 22-25. Aslib 49th Annual Conference . . . Van Mildert College, Durham, England. Contact: Conference Organizer, Aslib, 3 Belgrave Square, London SW1X 8PL, England.

Oct 2-4. SLA Board of Directors Meeting . . . Gramercy Park Hotel, New York City.

Oct 2-4. Southern Regional Group, Medical Library Association, annual meeting . . . Hilton Inn, Gainesville, Fla. Contact: Ted Srygley, J. Hills Miller Health Center Library, University of Florida, Gainesville, Fla. 32601.

Oct 7-9. National Micrographics Association, Workshop . . . New York City. The San Francisco sessions of Sep 9 will be duplicated in the East.

Oct 9-10. Library Microform Conference . . . Biltmore Hotel, New York, N.Y. Sponsored by *Microform Review*, Micropublishing Projects Committee, RTSD-ALA, and Bookdealer-Library Relations Committee, RTSD-ALA.

Oct 17-18. New England Regional Group, Medical Library Association, annual meeting . . . University of Massachusetts Medical School, Worcester, Mass. Contact: Donald J. Morton, Medical Center Library, University of Massachusetts, Worcester, Mass. 01605.

Oct 23-24. National Bureau of Standards/American National Standards Institute Symposium . . . Gaithersburg, Md. Contact: Hazel McEwen, Institute for Computer Sciences and Technology, National Bureau of Standards, Washington, D.C. 20234.

Oct 23-26. 10th National Colloquium on Oral History . . . Asheville, N.C. Theme: Oral History Comes of Age. Contact: Ronald E. Marcello, Box 13734, North Texas Station, North Texas State University, Denton, Texas 76203.

Oct 26-30. 38th Annual Meeting, American Society for Information Science . . . Sheraton-Boston Hotel, Boston. Theme: Information Revolution.

Oct 30-Nov 1. North Carolina Library Association, biennial conference . . . Winston-Salem, N.C.

Nov 9-12. 21st Allerton Park Institute . . . Monticello, Ill. Topic: Major Classification Systems. For Information: Brandt W. Pryor, Institute Supervisor, 116 Illini Hall, Champaign, Ill. 61820.

Future Meetings

1976

Jan 18-24. ALA Midwinter Meeting . . . Palmer House, Chicago.

Jan 29-31. SLA Winter Meeting . . . Netherland Hilton, Cincinnati.

Mar 7-10. National Federation of Abstracting and Indexing Services Annual Conference.

Mar 23-25. EURIM2 . . . Amsterdam. A European conference on the application of research in information services and libraries.

Apr 4-10. National Library Week.

Jun 6-10. SLA, 67th Annual Conference . . . Brown Palace and Currigan Convention Center, Denver, Colo.

Jun 13-18. Medical Library Association, 75th Annual Meeting . . . Minneapolis, Minn.

Jun 27-Jul 1. American Association of Law Libraries, Annual Conference . . . Sheraton Boston Hotel, Boston.

Jul 18-24. ALA Annual Conference . . . Chicago.

Sep 20-23. Aslib, 50th Annual Conference . . . University of Exeter, England.

Sep 21-25. FID 38th Conference and Congress . . . Mexico.

Sep 27-Oct 10. Eighth International Archives Congress . . . Washington, D.C.

Oct 6-7. Importance of Scientific and Technical Information . . . Washington, D.C.

Oct 31-Nov 4. ASIS, 39th Annual Meeting . . . San Francisco Hilton, San Francisco.

1977

Jan 20-22. SLA Winter Meeting . . . Washington Plaza . . . Seattle, Wash.

Jan 23-29. ALA Midwinter Meeting . . . Palmer House, Chicago.

Jun 5-9. SLA, 68th Annual Conference . . . New York Hilton, New York City.

Jun 12-16. Medical Library Association . . . 76th Annual Meeting . . . Washington Plaza Hotel, Seattle, Wash.

Jun 19-25. ALA Annual Conference . . . Detroit.

Jun 26-30. American Association of Law Libraries . . . Four Seasons-Sheraton Hotel, Toronto, Ont.

Sep 20-23. Aslib, 51st Annual Conference . . . University of Lancaster, England.

Oct 13-15. SLA, Board of Directors . . . Gramercy Park Hotel, New York City.

1978

Jan 22-28. ALA, Midwinter Meeting . . . Palmer House, Chicago.

Feb 2-4. SLA, Winter Meeting . . . Indianapolis Hilton, Indianapolis, Ind.

Jun 4-8. SLA, 69th Annual Conference . . . Regency Hyatt House, Atlanta.

Jun 25-Jul 1. ALA, Annual Conference . . . Chicago.

REVIEWS

Resource Sharing in Libraries; Why—How—When—Next Action Steps. Based on Papers Presented to the Conference Resource Sharing in Libraries Held April 11–12, 1973, at Pittsburgh, Pennsylvania; Cosponsored by the Pennsylvania Associations of Colleges and Universities, the Pittsburgh Council on Higher Education and the Pittsburgh Regional Library Center. Edited by Allen Kent. New York, Dekker, 1973. 393p. \$24.50.

The conference was organized primarily as a way to bring greater efficiency, effectiveness, and economy to the libraries located in Pennsylvania. The parochial view did not in any way reduce the value of this book. The conference did cover such library activities as acquisition, technical processing, storage, and the delivery of services. The national problem or the international problem has approximately the same areas of conflict and indecision as do those of one state within the United States. The computer network at the Ohio College Library Center, the MARC tapes, and the Medline system are all mentioned. Each system is discussed as it impinges on the Pennsylvania system. Whatever problems are going to arise with the MARC tapes throughout the entire world will surface in Pennsylvania. However, the MARC tapes are not mentioned as a problem but as a base from which to build a network.

The chapter on accreditation written by Robert Kirkwood contained a rather different view of the college and university library than normally found. Mr. Kirkwood says that "libraries are the most underutilized resource. Nevertheless, almost every faculty member wants a self-sufficient library on his or her campus." And he goes on to say that "I have been appalled at the actual ignorance of some faculty members about the potential value of the library's resources to their teaching endeavors." Furthermore, "it is painful to have to say that some faculty members never cross the threshold of a library at all." On the topic of accreditation, he says that "some who still seem to believe that unless a library had significant strength in its back collections, the institution will not be accredited. Again, this is a myth." This view from an accreditation expert is worth including in a library resource sharing book.

This book of conference proceedings goes a long way to describe the state of the art in network development. It is a must for the library network planner.

Masse Bloomfield
Hughes Aircraft Company
Culver City, Calif. 90230

Research Libraries and Technology: A Report to the Sloan Foundation, by Herman H. Fussler. Chicago, Ill., The University of Chicago Press, 1973. 91p. \$5.95

This is a report by a well-known and esteemed member of the library profession, one whose evaluation of library problems can be counted on for accuracy and appropriateness. The sponsor (the Sloan Foundation) has taken a view, fortuitous for librarians in all kinds of libraries (besides the university research units about which this investigation is primarily concerned), that broad distribution of the report is vital and may signal a more benevolent view of the broad spectrum of library problems which are so expensive to solve.

Dr. Fussler approaches the problem in a highly organized manner by first analyzing a number of major studies of libraries in relation to technology. This then sets the stage for a discussion of library cost trends, rate of library growth, and frequency of use of certain library materials. And this in turn is meant to illuminate basic problem areas for administrators and planners (not particularly for librarians who presumably know all this).

The next section covers characteristics, problems, and opportunities for change in bibliographic control methodology. All of this rather historic approach (which covers a space of just short one-half the volume) leads smoothly into future considerations, that is, relief from the problems. Three area approaches are provided: shared resource systems, microforms and photo-services, and facsimile transmission of textual materials.

Naturally there is also a discussion of the role of the computer in libraries and the usual dangers (cost, etc.) are cited. This is supplemented by reviewing current applications of computers in research libraries; but because of the rather rigid definition of research libraries, some new (and, I believe, rather exciting) developments are omitted. Developments in other library areas may well be applicable in research libraries.

In a final chapter summing it all up, Fussler properly notes that there is an absence of strong organizational mechanisms to effect basic changes in library- or information-access systems but that there are three identifiable areas where cost effectiveness (a key concept to successfully solving the major problems faced by research libraries) may be readily brought into play: 1) develop bibliographic tools and other access mechanisms; 2) information access patterns and apparatus; and 3) library processing and operating functions.

This work is a rather timely review of possible directions and patterns available to large research libraries in the present period of economic austerity (at least for most of us) and during the next five to ten years.

Robert G. Krupp
The Research Libraries
The New York Public Library
New York, N.Y. 10018

Special Cataloguing; with particular reference to music, films, maps, serials and the multi-media computerised catalogue, by John Horner. Hamden, Conn., Linnet Books & Clive Bingley, c1973. 327p. illus. Bibliography: p.304-312. \$15.00

John Horner is the author of *Cataloguing*, published in 1970, and is presently a lecturer in the Department of Library Studies, Western Australian Institute of Technology. His background includes lecturing at the College of Librarianship, Wales, as well as administrative positions in London Borough Libraries. In *Special Cataloguing*, Horner turns his attention to non-book materials and the problems they present as a group in cataloguing and indexing. The discussion is aimed toward making special materials more easily accessible for the library client.

A reader should not think that this book is a pedagogic approach to the subject matter. Fortunately, Horner's delightfully tart and perceptive British viewpoint provides a great deal of reading pleasure, in addition to being very practical and straight-forward. I thoroughly enjoyed Horner's ability to put out to pasture some of the more sacred cows we tend to think of as "authorities."

Each form of material discussed—music, films, maps and serials—receives two treatments. First, the problems of entries and descriptions are examined, and second, the solutions recommended in the principal cataloguing codes are summarized and commented upon. Essentially, the author is recommending "the principle of integrating, as far as possible, entries for all forms" of materials, books and non-books into a single catalog. He terms it the "multi-media catalog." To sup-

port his aim, the author points up in his analyses of the codes those aspects which allow for the interfiling of entries into a unified catalog. In the final chapter the multi-media catalog and the computer are discussed favorably.

The state of shock a library client experiences when confronted with a library catalog is well-known. As Horner says, "the understanding of the user is paramount, and if he cannot be made to understand semantically correct but incomprehensible terms, the catalogue becomes valueless unless explained at every turn by suitably trained library staff." As one solution to an incomprehensible catalog, Horner advocates the concept of the uniform title, particularly for special materials. It is one method of tying different types and forms of material together in a library. For example, "it may be thought that someone interested in *The chocolate soldier* by Oscar Straus is indifferent to George Bernard Shaw and the sugared-pill moral in his play *Arms and the man*. . . . However, the teacher of Shaw and his morals and politics may like to take advantage of the ultimate in sugared pills by using *The chocolate soldier* as an entrée to *Arms and the man*."

There is a considerable amount of original thinking and application of cataloguing principles in this book—well worth the time of a librarian who would like to exercise his mind in a different direction. I say different direction because cataloguing is not everyone's cup of tea, but those who are involved with collections of music, films, maps, serials will find this book especially engrossing.

William C. Petru
Hewlett-Packard Company
Palo Alto, Calif. 94304

Library Photocopying Sections of H.R. 2223

(Continued from page 400.)

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PUBS

(75-087) **Unionization: The Viewpoint of Librarians.** Guyton, Theodore Lewis. Chicago, Ill., American Library Association, 1975. 204p. \$10.00. LC 74-19164. ISBN 0-8389-0187-5

A study of the pattern of library unionization.

(75-088) **Library and Information Service Needs of the Nation.** Proceedings of a Conference on the Needs of Occupational, Ethnic, and Other Groups in the United States. Washington, D.C., Govt. Print. Off., 1974 (Forward). 314p. Stock no. 5203-00033

Describes this NCLIS sponsored conference concerned with user needs. Includes preconference position papers, individual user needs, papers prepared by conference participants, and an analysis of the implications of the conference.

(75-089) **Specialized Library Resources of Colorado.** MacDonald, Barb, comp. 3d rev. ed. Colorado Chapter, Special Libraries Assn., 1974. 147p. \$5.50.

Directory of subject collections in Colorado, with indexes by library, location, staff members and subject. Available from Barb MacDonald, 2500 Stuart St., Denver, Colo. 80212.

(75-090) **"World List of Pharmacy Periodicals—Revised and Enlarged Edition, 1975."** Andrews, Theodora and J. Oslet. *Amer J Hosp Pharm* 32: 85-124 (Jan 1975).

Includes about 1,940 entries. Reprint available from the American Society of Hospital Pharmacists, 4630 Montgomery Ave., Washington, D.C. 20014, for \$2.00.

(75-091) **The Bookman's Glossary.** Peters, Jean, ed. 5th ed. New York, R. R. Bowker, 1975. 169p. \$10.50. LC 61-13239 ISBN 0-8352-0732-3

Defines more than 1,600 terms used in book production and distribution. This edition includes computer typesetting terminology and omits foreign book trade terms.

(75-092) **National Minority Business Directory, Try Us, 1975.** 6th ed. Minneapolis, Minn., National Minority Business Campaign, c1975.

Main listing is by state under subject. Includes an alphabetical listing of vendors and a subject index with cross-references.

(75-093) **Especially DDC, Users Look at the DoD Information Transfer Process.** Washington, Committee on Information Hang-Ups, 1975. 49p.

Report reviews existing services of and recommends long-range objectives for the Department of Defense's information transfer process. For information contact: Defense Supply Agency,

Defense Documentation Center, Cameron Station, Alexandria, Va. 22314.

(75-094) **New Dimensions for Academic Library Service.** Josey, E. J., ed. Metuchen, N.J., Scarecrow Press, 1975. 349p. \$12.50. LC 74-34248 ISBN 0-8108-0786-6

Compilations of essays regarding the library's role in higher education, new approaches in problem solving, issues facing academic libraries, and patterns of systems, networks, and consortia.

(75-095) **Nonprint Media in Academic Libraries.** Grove, Pearce S., ed. Chicago, American Library Assn., 1975. 239p. (ACRL Publications in Librarianship no. 34) \$10.00. LC 74-23972 ISBN 0-8389-0153-0

Guide to the selection, acquisition, and organization of nonprint media, as well as discussion of the various forms, e.g., slides, film, maps, and pictures.

(75-096) **Citizen Participation and Public Library Policy.** Robbins, Jane. Metuchen, N.J., Scarecrow Press, 1975. 178p. \$7.50. LC 74-34248 ISBN 0-8108-0796-3

Study of decision-making policy in connection with community participation.

(75-097) **Interlibrary Loan Policies Directory.** Thomson, Sarah Katharine, ed. Chicago, American Library Assn., 1975. 486p. \$7.95. LC 74-32182 ISBN 0-8389-0197-2

Lists 276 libraries, arranged by NUC codes, with their policies on interstate ILL.

(75-098) **Library Manpower: A Study of Demand and Supply.** U.S. Bureau of Labor Statistics. Washington, Dept. of Labor, 1975. 94p. \$1.75. (U.S. Govt. Print. Off.) Cat. no. L2.3:1852 Stock no. 029-001-01367 LC 74-28192

Analysis of the current manpower situation, and projections of manpower supply and demand.

(75-099) **Boston ILL Directory.** Pfaff, Marianne, comp. Boston, Northeastern University, 1974. 214p. \$5.00.

Institutions arranged alphabetically under headings of academic, special, or public libraries, with an index of cities and towns and a subject index. Entries include such information as name and title of person handling interlibrary loan, collection size and subject emphasis, type of material available, and circulation time.

(75-100) **Scientific and Technical Information Processing.** no.1, 1974. New York, Allerton Press, Inc., 1974. Quarterly. \$100.00 per year.

Selected major articles from Nauchno-Tekhnicheskaya Informatsiya, Seriya 1, translated into English.

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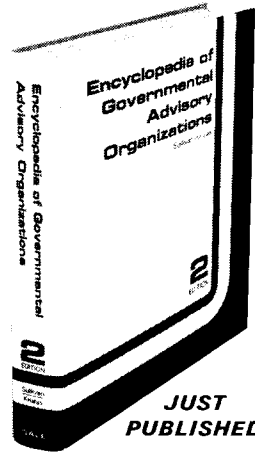
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