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From the Editor's Desk . . .

For our twenty-fifth anniversary we invited library schools accredited by ALA to participate in the *LRTS* Silver Anniversary Competition. Each library school was invited to submit one paper written by a student enrolled during 1980 in the master's program and appropriate for publication in *LRTS*. All of the entries—with author and school identifications deleted—were evaluated by a team of referees that included Paul Kebabian, Christina Landram, Jessica Milstead, Julieann Nilson, Marilyn Norstedt, Leroy Ortopan, Herbert Poole, Dennis Reynolds, Arlene Schwartz, Marguerite Soroka, Paul Vassallo, and Benita Weber. The entries receiving the highest ratings were then reviewed by all of the members of the *LRTS* Editorial Board except the one library school faculty member. We congratulate the following students and their library schools for these award-winning papers:

1st prize—"Monographs in Microform: Issues in Cataloging and Bibliographic Control," by Elizabeth G. Mikita, Graduate School of Library and Information Studies, Rutgers—The State University of New Jersey;

2d prize—"In the Iron Age of Cataloging," by Stephen Van Houten, School of Library Service, Columbia University;

3d prize—"Problems of Cataloging and Classification in Theater Librarianship," by Lee R. Nemchek, School of Library Science, University of Southern California.

The three award-winning papers will appear in the next issue of *LRTS*. Future issues may include some of the other entries, all of which were very good.

The editor very much appreciates the contributions of the referees, assistant editors, library school faculty and students, and RTSD, without which the *LRTS* Silver Anniversary Competition would not have been successful.—*Elizabeth L. Tate.*
Rehabilitation Literature: A Guide to Selection Materials

Richard E. Bopp and Francesca A. Anstine

The rehabilitation of physically disabled persons is an expanding and interdisciplinary field, and the literature on this topic has grown rapidly in recent years. Bibliographic control of rehabilitation literature is poor, and selection of materials about physically disabled persons can be a difficult undertaking. The present article describes and evaluates various selection tools on the basis of their coverage of rehabilitation literature and their usefulness to academic, public, and special librarians.

Literature about people with physical disabilities is growing today at a rate comparable to that of literature about blacks or women in the 1960s and 1970s. This dynamic expansion has a number of causes. The growing awareness that rehabilitating disabled persons costs less than supporting them has resulted in the investment of large amounts of public and private resources in research, training, and information gathering in the area of rehabilitation. Medical and engineering advances have extended the length and improved the quality of life for disabled people. At the same time, more positive attitudes toward people with physical disabilities have broken down many of the barriers which formerly kept disabled persons out of the mainstream of American life. Finally, federal legislation, such as the Rehabilitation Act of 1973 (PL 93-112), and political activity by many disabled individuals have focused public attention on the problems and potentials of the disabled.

The expansion of rehabilitation literature is augmented by the increasing variety of professionals who work in this field. Librarians, lawyers, social workers, engineers, architects, and others have joined health care professionals, educators, and vocational counselors as rehabilitation practitioners and researchers. They all face a critical problem in keeping up with the information explosion in the field of rehabilitation.

To help solve this problem, the Illinois State Library in June 1979 awarded a Library Services and Construction Act Title I grant estab-
lishing a Center for Rehabilitation Information in the University of Illinois Library of the Health Sciences at Urbana-Champaign. Among the objectives of this project is the creation of a comprehensive collection of print and audiovisual materials in the various fields related to rehabilitation of persons with physical disabilities. The primary emphasis of the collection is on professional literature, but patient education and consumer-oriented publications are included as well to provide professionals with examples of useful materials in these areas. Conditions defined as physical disabilities under this grant include hearing, visual, and mobility impairments; orthopedic and neurological disorders; and other disabling conditions resulting from disease or injury. Collection development in the area of special education is limited to general works and does not include classroom or curriculum materials. The center serves as a resource for professionals and disabled persons throughout Illinois and beyond.

Building this collection has required the identification, selection, and acquisition of materials of all types and formats, including textbooks, monographs, pamphlets, serials, state and federal government publications, and audiovisuals. The present article will describe and evaluate the tools used in selecting these materials. It is directed at those public, academic, and special librarians who wish to acquire materials about physically disabled persons and their rehabilitation.

While published information about physical disability and rehabilitation has grown rapidly, little has been done in the area of evaluating selection tools for rehabilitation literature. Much that has been written is directed at children's librarians. Dequin's article, "Selecting Materials for the Handicapped: A Guide to Sources," is restricted to selecting special education materials or materials for "exceptional children." The same author's "Sources of Information about the Handicapped" describes selection tools for nonprint materials. This article also emphasizes educational materials for disabled children. Notes from a Different Drummer, by Barbara Baskin and Karen Harris, offers a chapter dealing with the assessment, selection, and use of juvenile fiction portraying the disabled. It includes evaluative summaries of 311 fictional works with disabled characters. These authors provide valuable assistance to librarians who work with exceptional children. Their work represents a beginning, but the areas they cover—children's literature and special education—are a small part of the rehabilitation field.

Within the past few years, several books dealing with library services to disabled persons have appeared. While all give some direction regarding materials recommended for purchase, none lists or evaluates selection tools themselves. The articles in Library Services to the Blind and Physically Handicapped, edited by Maryalls Strom, discuss the philosophy and principles of selection rather than aids for selection. Kieth Wright, in Library and Information Services for Handicapped Individuals, considers many important aspects of serving disabled library users, but in the area of selection he offers only a short list of sources of materials. The best of the books in this area is Ruth Velleman's
Serving Physically Disabled People. Velleman provides core lists of materials about the disabled for public, special education, and rehabilitation libraries. Each list is annotated and could be a valuable selection tool in certain situations. However, neither Velleman's book nor her earlier article, "Rehabilitation Information: A Bibliography," discusses or evaluates selection tools that might be useful for an ongoing effort to acquire rehabilitation materials. It is this identification and evaluation of selection materials that the present authors undertake to provide.

**Selection Problems**

Selecting materials about the rehabilitation of the physically disabled is complicated by the rapid growth of the literature, the interdisciplinary character of the literature, and the variety of formats and publication sources. Virtually every profession has become involved in working with and writing about the disabled. The literature they produce covers the full spectrum of formats, from reports of research in highly technical areas such as medical engineering to pamphlets for patient education. The bibliographic control of rehabilitation literature leaves much to be desired. Many of the research studies are not listed in sources familiar to librarians, while many of the patient education or consumer-oriented publications are not noticed or reviewed in the professional literature. Except for textbooks and monographs, much of the most important literature is not available from standard publishers. One must contact voluntary organizations, small presses, and public and private research centers for these publications.

Finding evaluations of rehabilitation materials is even more difficult than finding basic acquisition information. Some trade publications are reviewed in professional journals, but surprisingly few rehabilitation journals offer more than a token book review or two. Rehabilitation Literature, the most comprehensive source for annotated listings of recent publications, provides reviews and abstracts that are more descriptive than evaluative. Also, items may be reviewed as late as a year after their publication. Some consumer-oriented periodicals, such as Rehabilitation Gazette, also selectively review new publications, but they are generally less current than Rehabilitation Literature. A number of annotated bibliographies have appeared (see appendix A), and the catalogs of organizations and rehabilitation and research centers are generally annotated, but evaluative analyses by objective professionals are simply difficult to find for most rehabilitation-related publications.

**General Selection Tools**

Several general selection tools are useful in the area of rehabilitation literature. A brief comparative description of these selection aids follows.

*Library of Congress Subject Catalog*

The Library of Congress collects a wide range of nonmedical material about physical disability and rehabilitation. Its Subject Catalog can
be used to get some idea of available literature, but it has three serious
drawbacks as a selection tool. First, the material is listed under a large
number of headings for specific disabilities and specific aspects of re-
habilitation. Secondly, the last year for which a cumulative annual list-
ing is available at this writing (February 1981) is 1979. Consulting the
separate quarterly lists for 1980 and 1981 is very time-consuming be-
cause of the number of headings and subheadings involved. Finally,
the price is not given for some materials and in no case is an ordering
address given.

The quinquennial cumulations are more useful for older materials.
Though many of the works listed are outdated or out of print, some
of the important earlier works are still available. Also, the Subject Cata-
log does list state and federal government publications and some pub-
lications of rehabilitation organizations and research centers.

SUBJECT GUIDE TO BOOKS IN PRINT

Subject Guide to Books in Print is a useful selection tool for rehabilita-
tion materials for public librarians or for those special librarians inter-
ested in patient education. Organized according to Library of Con-
gress subject headings, it includes hardbounds, paperbacks, trade
books, and textbooks for adults and juveniles. It does not list free
books, books costing less than twenty-five cents, or government pub-
lications. There are more than thirty subject headings related to
physical disabilities, ranging from “Amputees” to “Speech Disorders in
Children.” An important asset of the Subject Guide is the variety of
topics and potential audiences represented by the materials it indexes.
Although it provides no annotations or evaluations, it is fairly current,
and price and publisher are always listed.

MEDICAL BOOKS AND SERIALS IN PRINT

Medical Books and Serials in Print (MBIP) uses many of the same sub-
ject headings as the Subject Guide, and most entries in MBIP are also
found in the Subject Guide. MBIP does not include as many biogra-
phies, teachers’ manuals, or works for the disabled layperson as the
Subject Guide. It does, however, provide subject and title indexes to se-
rials. Because of its greater emphasis on scholarly and research mate-
rials, MBIP could be a more effective selection aid than the Subject
Guide for special librarians who serve professionals working with dis-
abled persons.

NATIONAL LIBRARY OF MEDICINE CURRENT CATALOG

The present Current Catalog, published quarterly and cumulated
annually and quinquennially, has a computerized counterpart in the
CATLINE database. The printed and computerized versions are the
same except for Cataloging in Publication items and limited catalog-
ing, which are not published in the quarterly and annual cumulations.
For announcements in advance of the printed catalog, weekly Current
Catalog Proof Sheets can be obtained through the Medical Library Asso-
ciation (see appendix B).
The Current Catalog provides good coverage of government documents, foreign publications, conferences, and nontrade publications in the field of rehabilitation. For government documents, it is preferable to the Monthly Catalog of United States Government Publications because of its use of Medical Subject Headings (MeSH) instead of LC subject headings and because of its prompter listing of materials. Its coverage of conferences and nontrade publications is better than that found in other general selection tools.

COMPUTERIZED DATABASES

Computerized databases that offer an alternate means of searching the published literature for rehabilitation materials include Books Information (BOOKS INFO), AVLINE, and CATLINE. BOOKS INFO is available through Bibliographic Retrieval Services, Inc., while AVLINE and CATLINE may be accessed through the National Library of Medicine's MEDLARS database.

The BOOKS INFO database, produced by Brodart, Inc., provides access to approximately six hundred thousand English-language monograph titles currently in print. Among these titles are juvenile books, textbooks, and monographic series. For each work, BOOKS INFO gives publisher, price, Library of Congress card number and call number, ISBN, and publication status. BOOKS INFO is particularly strong in the areas of recreation, popular works, guides, and handbooks. This database has no controlled vocabulary or thesaurus to aid in searching, but free text searching on specific topics can be very successful. Although in one search, the terms handicap, disabled, and disabiliti produced approximately one hundred fifty hits, crossing these with rehabilitat:, habilitat:, or patient(s) produced thirty-eight references. Table 1 demonstrates how many references appeared in BOOKS INFO during June 1980 for selected rehabilitation topics.

AVLINE, the National Library of Medicine's (NLM) computerized catalog of audiovisual materials, provides bibliographic and review data for audiovisual materials in the health sciences. Materials other

<table>
<thead>
<tr>
<th>Search Strategy</th>
<th>Postings</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADL or (activities with daily with living)</td>
<td>12</td>
</tr>
<tr>
<td>independent$3 with living</td>
<td>9</td>
</tr>
<tr>
<td>vocational with rehabilitation</td>
<td>19</td>
</tr>
<tr>
<td>handicap$5 or disabled or disabiliti$3</td>
<td>1,509</td>
</tr>
<tr>
<td>amputee$ or tetrapleg$ or parapleg or quadripleg$</td>
<td>38</td>
</tr>
<tr>
<td>blind or blindness or (visual with impair$6)</td>
<td>344</td>
</tr>
<tr>
<td>deaf or deafness or (hearing with impair$6)</td>
<td>333</td>
</tr>
<tr>
<td>speech with impair$6</td>
<td>4</td>
</tr>
<tr>
<td>therap$ with recreation</td>
<td>11</td>
</tr>
<tr>
<td>wheelchair$1 or (wheel adj chair$1)</td>
<td>19</td>
</tr>
<tr>
<td>spinal with cord with injur$3</td>
<td>20</td>
</tr>
</tbody>
</table>

TABLE 1
POSTINGS ON BOOKS INFO DATABASE
($ INDICATES TRUNCATION)
than lectures, meetings, seminars, and so forth are reviewed for AVLINE by the Association of American Medical Colleges. AVLINE provides all the information necessary to purchase or borrow the audiovisual materials it includes.

There are several print counterparts to portions of the AVLINE database. Current coverage of audiovisuals cataloged by NLM is provided by the National Library of Medicine Audiovisuals Catalog.\textsuperscript{12} However, this publication does not include audiovisual materials not recommended or pending review, which do appear in the AVLINE database. The Audiovisuals Catalog is a quarterly publication, with the fourth issue comprising an annual cumulation.

AVLINE can be successfully searched for rehabilitation topics by using a combination of MeSH and free text (TW) terms. MeSH is rather limited in the area of rehabilitation, but the vocabulary does provide a subheading, rehabilitation, that can be used with various disabling conditions. In the strategies listed in table 2, the searcher relied primarily on free text terms as opposed to MeSH index terms or subheadings. MeSH terms and text words are indicated.

\begin{table}[h]
\centering
\caption{Postings on AVLINE Database (# and : Indicate Truncation)}
\begin{tabular}{|l|l|}
\hline
Search Strategy & Postings \\
\hline
ADL(TW) or activities of daily living (MeSH) & 17 \\
handicap:(TW) or disabled(TW) or disabilit:(TW) & 81 \\
amputee#(TW) or tetrapleg:(TW) or parapleg:(TW) or quadripleg:(TW) & 46 \\
blind(TW) or blindness(TW) & 24 \\
hearing(TW) or impair:(TW) & 6 \\
deaf(TW) or deafness(TW) & 15 \\
visual(TW) and impair:(TW) & 9 \\
speech(TW) and impair:(TW) & 3 \\
habilitat:(TW) & 1 \\
arhitectur:(TW) and (barrier#(TW) or accessib:(TW)) & 1 \\
stroke#(TW) or epilep:(TW) or sclerosis(TW) or dystrophy(TW) & 167 \\
cerebral(TW) and pals:(TW) & 20 \\
laryngectom:(TW) & 13 \\
therap:(TW) and recreation:(TW) & 15 \\
independent(TW) and living(TW) & 4 \\
spinal cord injuries (MeSH) & 7 \\
(wheel(TW) and chair#(TW)) or wheelchair#(TW) & 45 \\
\hline
\end{tabular}
\end{table}

As one would expect with audiovisual materials, the emphasis lies in the demonstration of various techniques (e.g., wheelchair transfers, positioning) and in activities of daily living (e.g., feeding, self-care). Self-instructional units or patient education materials are well represented under the various topics listed above. The primary audiences for these materials appear to be nursing, occupational therapy, and physical therapy staff.
CATLINE is NLM’s version of AVLINE for its serial and monographic collections. It represents all serials and monographs cataloged by NLM since 1965 and contains approximately one hundred ninety thousand citations. The printed counterpart for the database is the Current Catalog. CATLINE is a much more productive computerized selection tool for monographic literature in the rehabilitation area than is BOOKS INFO. Compare the search strategies in table 3 to those of BOOKS INFO.

### TABLE 3
**POSTINGS ON CATLINE DATABASE**

<table>
<thead>
<tr>
<th>Search Strategy</th>
<th>Postings</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADL(TW)</td>
<td>1</td>
</tr>
<tr>
<td>activities of daily living (MeSH)</td>
<td>33</td>
</tr>
<tr>
<td>vocational(TW) and rehabilitation(TW) (in title)</td>
<td>60</td>
</tr>
<tr>
<td>rehabilitation, vocational (MeSH)</td>
<td>221</td>
</tr>
<tr>
<td>handicap:(TW)</td>
<td>634</td>
</tr>
<tr>
<td>disabled(TW) or disabilit:(TW)</td>
<td>513</td>
</tr>
<tr>
<td>amputee#(TW) or tetrapleg:(TW) or parapleg: (TW) or quadripleg:(TW)</td>
<td>43</td>
</tr>
<tr>
<td>(hearing(TW) or visual(TW) or speech(TW)) and impair:(TW)</td>
<td>78</td>
</tr>
<tr>
<td>blind(TW) or blindness(TW)</td>
<td>340</td>
</tr>
<tr>
<td>deaf(TW) or deafness(TW)</td>
<td>231</td>
</tr>
<tr>
<td>speech(TW) and disorder#(TW) (in title)</td>
<td>35</td>
</tr>
<tr>
<td>(orthopedic(TW) or orthopaedic(TW) or neurologic(TW)) and disorder#(TW)</td>
<td>99</td>
</tr>
<tr>
<td>(birth(TW) or congenital(TW)) and (defect#(TW) or abnormalit:(TW))</td>
<td>146</td>
</tr>
<tr>
<td>birth(TW) and defect(TW) (in title)</td>
<td>35</td>
</tr>
<tr>
<td>habilitat:(TW)</td>
<td>22</td>
</tr>
<tr>
<td>stroke#(TW) or epilep:(TW) or sclerosis(TW) or dystroph:(TW)</td>
<td>596</td>
</tr>
<tr>
<td>cerebral(TW) and pals:(TW)</td>
<td>80</td>
</tr>
<tr>
<td>independent(TW) and living(TW)</td>
<td>4</td>
</tr>
<tr>
<td>spinal cord injuries (MeSH)</td>
<td>69</td>
</tr>
<tr>
<td>aphasia(TW)</td>
<td>125</td>
</tr>
<tr>
<td>wheelchair#(TW) or (wheel(TW) and chair#(TW))</td>
<td>12</td>
</tr>
<tr>
<td>therap:(TW) and recreation(TW)</td>
<td>16</td>
</tr>
</tbody>
</table>

These are postings on broad terms common in rehabilitation literature. More specific searching would have to be done to meet the particular needs of a library or patron, but a general impression of the number of titles available through CATLINE and the other two databases is shown here. Conference proceedings, government documents, and university press publications form a significant number of the references under the above subjects. Vocational rehabilitation is covered extensively in CATLINE. The materials referenced generally tend to be technical and clinically oriented, geared for the professional working with the physically disabled. As Sorrentino and others have shown,
useful results can be obtained by crossing the form subheading *popular works* with the particular subject of interest to obtain consumer health materials.\(^{13}\)

In comparing computerized databases to the printed selection tools described earlier, several points should be made. In most cases, and in reference to rehabilitation literature in particular, retrospective searching is best done using printed indexes, because most computerized databases do not go back further than the mid-1960s and because computerized searches are generally more expensive, especially if the number of searches is high. On the other hand, computerized databases do save time and provide many more access points than their printed counterparts. In the area of rehabilitation literature, therefore, a choice may have to be made between *Current Catalog* and CATALOG, or the *National Library of Medicine Audiovisuais Catalog* (and its predecessors) and AVLINE. BOOKS INFO is not the printed version of either MBIP or *Subject Guide to Books in Print*.

**PUBLICATIONS OF REHABILITATION ORGANIZATIONS AND FACILITIES**

Many of the voluntary professional organizations of and for disabled people issue catalogs listing the materials the organization produces or distributes. The *A.F.B. Catalog*, for example, includes only the monographs, reference works, pamphlets, and research reports published by the American Foundation for the Blind. A similar source for materials on deafness is the catalog of the Alexander Graham Bell Association for the Deaf. *Bell Publications* contains print and audiovisual materials in the areas of audiology, speech, speech reading, and language development. The National Association of the Deaf's *Catalog of Publications* is stronger in the area of manual communication. This association also distributes books originally published by commercial publishers, some of which are no longer available from the original publisher. Another good source of materials on deafness is the *Gallaudet College Bookstore Catalog*. In addition to books for professionals, it lists works of literature, biography, and poetry by deaf persons written for a general audience. For materials about other physical disabilities, the *Publications Catalog* of the National Easter Seal Society is a good source. It lists primarily pamphlets and reprints of articles originally published in the society's periodical, *Rehabilitation Literature*. The society also compiles and distributes free bibliographies, covering various disabilities, based on the works reviewed in *Rehabilitation Literature* over the years. These bibliographies, which are periodically revised, list trade publications and give full ordering information including publishers' addresses.

All of these organization catalogs include brief annotations, which summarize in a sentence or two the contents of each item and the audience for whom it is intended. For more complete summaries of recently published works, the best source is *Rehabilitation Literature*. In addition to several professional articles, each issue contains a large number of reviews and abstracts of current monographic and
periodical literature. The reviews are sometimes evaluative, but the abstracts are strictly descriptive. They provide ordering information for books and complete bibliographic citations for articles. Trade publications are reviewed, but monographic publications of institutes, government bodies, and research centers are abstracted. For the latter, abstracts provide complete addresses of the publishers. Rehabilitation Literature, the most comprehensive of the annotated selection sources, covers the full range of disabilities and all aspects of rehabilitation. Items generally appear several months to a year after their original publication.

Most of the many public and private facilities engaged in research, training, and/or practice in this field generate their own publications and audiovisual productions to disseminate new knowledge and techniques in this rapidly expanding field. Federally supported centers include nineteen rehabilitation research and training centers, five regional rehabilitation research institutes, and fourteen rehabilitation engineering centers. The literature they produce is of interest to hospital librarians and to special or academic librarians in the fields of biomedical engineering, social work, special or vocational education, and related fields. Addresses for all thirty-eight of these centers are provided by Velleman in Serving Physically Disabled People. Private rehabilitation facilities that produce extensive print and audiovisual materials include the Rehabilitation Institute of Chicago, the Sister Kenny Institute in Minneapolis, and the Institute of Rehabilitation Medicine in New York. Addresses for rehabilitation institutes and organizations are provided in appendix B.

**Subject Bibliographies**

Bibliographies illustrate the problems inherent in identifying, selecting, and acquiring materials about rehabilitating disabled people. The usefulness of bibliographies for materials selection varies with their organization, the information they provide, and whether or not they are annotated. Most bibliographies are neither evaluative in their annotations nor sufficiently detailed in the information they provide. As discussed above, much current rehabilitation literature is produced by nonstandard publishers whose publications are not listed in Books in Print and whose addresses are sometimes difficult to locate. When a bibliography does not provide the address of such a publisher, extensive reference work is required. It follows that the most useful bibliographies are those that have been published specifically as selection aids. Appendix A lists and annotates the bibliographies the authors have used in building the collection at the Center for Rehabilitation Information.

**Selecting Special Materials**

**Vertical File**

The vertical file can be an important part of any rehabilitation collection. Organization newsletters and educational or informational pamphlets are especially useful.
Most of the organizations devoted to the treatment and cure of particular diseases or disabilities publish newsletters for the professionals working in their particular field. These newsletters contain information about relevant government research developments as well as news about the activities and services of the publishing body. Some feature stories about providers and/or disabled recipients of services offered by the organization. Most of these newsletters are available free or at a nominal cost; they can be kept for a year or two, and then discarded.

Many organizations also publish educational pamphlets designed to help disabled persons understand and adapt to their new situation and its physical, social, and psychological ramifications. Public librarians and medical librarians with an interest in patient education can select these inexpensive publications from the catalogs of the various professional and governmental agencies. Consumer-oriented serials, such as *Rehabilitation Gazette*, also list these publications and give ordering information.

The vertical file of rehabilitation materials can also serve as a reference tool. Pamphlets that describe the founding, structure, purpose, and goals of organizations serving the physically disabled can be used in reference work to supplement available directories and provide more detailed information about such organizations. Referral is easier when one has more than the selected information given in most reference tools.

The most helpful tool for acquiring these vertical-file materials is a directory of the organizations that work with rehabilitation professionals and/or disabled persons themselves. The three the authors found most useful are the Directory of National Information Sources on Handicapping Conditions and Related Services, Directory of Organizations Interested in the Handicapped, and part IV of the Disability and Rehabilitation Handbook.

**SERIALS**

The most comprehensive selection source for serials in most subject areas, Katz and Richards' *Magazines for Libraries*, discusses recommended titles under more than one hundred subject headings, a list that includes the heading Handicapped but not Rehabilitation. Only four titles for professional audiences and several for disabled laypersons are listed under Handicapped. Consequently, this basic selection tool is difficult to use in selecting rehabilitation periodicals, since it requires searching among a variety of other subject headings to find a significant number of relevant titles.

There are several nonannotated lists of serials in the field of rehabilitation. The "Periodical List" of the National Rehabilitation Information Center (NARIC) lists more than two hundred periodicals and newsletters in its own collection. This list provides addresses but not subscription prices. The list published by the National Easter Seal Society, which includes more than one hundred titles, is not current (1978) but does provide information on subscription rates. Both are available at no charge. The core lists in Ruth Velleman's book, *Serving
Physically Disabled People, include serials recommended for public, special education, and rehabilitation library collections. Like the NARIC list, Velleman's includes addresses but no annotations or information about subscription rates. Although these lists provide information similar to that found in general periodical directories, they are more useful because they combine serials in all of the various rehabilitation subject fields into one integrated list.

GOVERNMENT DOCUMENTS

Selection tools helpful for identifying and acquiring government documents are the publications lists of appropriate government agencies (e.g., Veterans Administration), the National Library of Medicine Current Catalog, the Monthly Catalog of United States Government Publications, and Government Printing Office subject bibliographies.

The headings in the Monthly Catalog that appeared to be most productive include: blind (and all the headings starting with blind), deaf, deafness, and headings beginning with handicapped. Other helpful subject headings include the names of agencies dealing with the disabled (National Federation of the Blind, National Institute of Neurological Diseases, and Stroke), particular disabling diseases (multiple sclerosis, arthritis), topics of interest to disabled persons (housing, architecture, and the physically handicapped), and various others (hearing, artificial joints, abnormalities). The Monthly Catalog also provides access to publications issued by government agencies that produce extensive literature about the physically disabled, such as the National Institute of Handicapped Research.

Perhaps the most efficient selection tools for government publications are the subject bibliographies published by the Government Printing Office. These bibliographies are issued on a fairly regular basis and are listed in the Monthly Catalog. Many of the citations are annotated. In the field of rehabilitation, the most useful are, "The Handicapped," "Hearing and Hearing Disability," and "Rehabilitation." These bibliographies are designated by an SB (Subject Bibliography) number (e.g., SB-023, SB-037), and materials listed are available from the Government Printing Office at minimal cost. Indexes to these bibliographies are published irregularly and are also listed in the Monthly Catalog.

State government publications are more difficult to track down, although Bibliographic Retrieval Services, Inc., has recently (September 1980) made available a STATE PUBLICATIONS INDEX database, which should facilitate the identification of these materials. State agencies related to the handicapped can be contacted and a state library depository shipping list can be used as well. In Illinois, persons or institutions may be put on a mailing list for the latter.

AUDIOVISUALS

Selection of audiovisual materials is extremely difficult due to the variety of commercial producers and professional organizations contributing to a recently burgeoning field. As with print materials,
reviews or evaluations of audiovisual materials are sometimes difficult to find. Selection tools range from newsletters to specialized subject catalogs. Some general indexes to audiovisual materials give a useful amount of coverage to rehabilitation items and many rehabilitation journals contain regular sections reviewing audiovisual materials. However, extensive evaluations are rare. Various organizations in the rehabilitation field also issue catalogs of the materials they distribute or have published. An annotated list of selection tools for audiovisual materials appears in appendix C.

SUMMARY

The selection of materials about physical disability and rehabilitation is complicated by the expanding nature of the field, the relatively poor bibliographic control of the literature, and the scarcity of evaluative reviewing sources. However, the level of difficulty in selecting these materials will vary with the needs of the individual librarian. Those who wish to purchase only major new additions can probably rely on the standard sources of reviews, supplemented by a regular check of the reviews in Rehabilitation Literature. Librarians building a research collection will want to use one or more of the general selection sources, such as the NLM Current Catalog or a computer database search, and should consult the available core lists as well. They will also want to use the various sources for locating the publications of government agencies. Finally, librarians seeking to create a comprehensive rehabilitation collection will need to pursue all of these avenues, and in addition, make use of the publications lists of rehabilitation organizations and the available bibliographies of rehabilitation materials.

The explosion of rehabilitation literature seems certain to continue. As our life span increases and as medical science advances, the number of Americans with disabling or physically limiting conditions will also increase. Consequently, research in the various rehabilitation fields will continue to expand. We can hope that bibliographic control of this important area will improve, so that the selection of materials will become a simpler and less time-consuming task. Until that time, librarians must rely on existing sources to meet their unique selection needs. It is hoped the present article will serve as an aid in this sometimes difficult endeavor.

REFERENCES


**APPENDIX A**

**SELECTED BIBLIOGRAPHIES OF REHABILITATION MATERIALS**


Lists articles and a few films, with short, descriptive annotations, on providing access to buildings and transportation facilities; gives price and publisher's address for most.


Articles and books are integrated into a single list in each of the thirty-five chapters; includes brief, descriptive annotations. Comprehensive (3,057 entries) and easy to use because of the extensive subject division, which allows specialized libraries to focus on narrow areas. Medical literature not included.


Lists only monographs. Not annotated but audience level and publishers' addresses are listed.


Lists books and articles on a wide variety of rehabilitation topics. Easy to use; provides large number of subject headings.


Compilation of various types of publications listed by format; unique sources of materials include university bulletins and foreign societies. Many of the publication dates are 1950s and 1960s; these may be out of date or out of print. Not annotated.

Hein, Ronald D., and Bishop, Milo E. *An Annotated Bibliography on Mainstreaming of the
Rehabilitation Literature / 241


Includes books, articles, and published and unpublished research papers. V.1 lists the materials by author and includes descriptive annotations, which vary greatly in length; V.11 provides lists by fifteen subject categories. An item may appear under more than one subject. Difficult to use for selection. No prices or publishers' addresses given.


Covers all disabilities, including mental retardation. Lists monographs, article reprints, training materials, and audiovisuals. Descriptive annotations vary in length and in information provided. Publisher's or distributor's address given. Promises an updated edition.


Includes materials of interest to professionals and a section of books for children. Annotated; provides price and publisher.


Emphasizes techniques and devices. Annotates approximately 200 monographs and pamphlets. Includes prices and publishers' addresses.


Briefly annotates 126 monographs, research reports, and pamphlets; includes some journal articles. Publishers' names, but not addresses, are given. No prices listed.


Annotates more than 200 items, including free pamphlets and monographs. Lists publishing agency, price, and Government Printing Office stock number (when appropriate).


Covers a variety of publication formats, including audiovisuals on topic of children who are both deaf and blind. Print materials are not annotated but ordering information is provided. Numerous subject headings used; author index provided.


Good, lengthy annotations are provided for seventy-one monographs in the area of vocational rehabilitation, thirty-four of which are available from the Materials Development Center. Ordering information given for the others. Some items are for use with retarded rather than with physically disabled clients.


Lists pamphlets, monographs, and periodicals; short, descriptive annotations. Price and address of publisher are given. Also includes several films dealing with accessibility.


A valuable listing of monographs, articles, audiovisuals, and doctoral dissertations relating to activities of daily living for physically disabled persons. Annotations are evaluative, and ordering information is complete. Divided by subject and by disability. Unique feature is a list of catalogs of aids and devices.
APPENDIX B

SPECIALIZED SOURCES FOR REHABILITATION LITERATURE

Alexander Graham Bell Association for the Deaf
3417 Volta Pl., NW
Washington, DC 20007

American Foundation for the Blind
15 W. 16th St.
New York, NY 10011

Gallaudet College Bookstore
Gallaudet College
Washington, DC 20002

The Institute of Rehabilitation Medicine
New York University Medical Center
400 E. 34th St.
New York, NY 10016

Materials Development Center
Stout Vocational Rehabilitation Institute
University of Wisconsin-Stout
Menominee, WI 54751

Medical Library Association
919 N. Michigan Ave.
Chicago, IL 60611

Moss Rehabilitation Hospital
12th St. and Tabor Rd.
Philadelphia, PA 19141

National Association of the Deaf
814 Thayer Ave.
Silver Spring, MD 20910

National Easter Seal Society
2023 W. Ogden Ave.
Chicago, IL 60612

National Federation of the Blind
1800 Johnson St.
Baltimore, MD 21230

The Institute of Rehabilitation Medicine
New York University Medical Center
400 E. 34th St.
New York, NY 10016

Materials Development Center
Stout Vocational Rehabilitation Institute
University of Wisconsin-Stout
Menominee, WI 54751

Medical Library Association
919 N. Michigan Ave.
Chicago, IL 60611

Moss Rehabilitation Hospital
12th St. and Tabor Rd.
Philadelphia, PA 19141

National Rehabilitation Information Center
Eighth and Varnum Sts., NE
The Catholic University of America
Washington, DC 20064

Research Dissemination
Education and Training Center
Rehabilitation Institute of Chicago
345 E. Superior St.
Chicago, IL 60611

Sister Kenny Institute
Abbott-Northwestern Hospital, Inc.
2727 Chicago Ave.
Minneapolis, MN 55407

APPENDIX C

SELECTION TOOLS FOR AUDIOVISUALS IN THE AREA OF REHABILITATION


Contains 314 references to 16mm films and other media. Unique feature is inclusion of materials for or about the able-bodied that can be used with the disabled. Reviews include summary, possible uses, or audiences. Has index of key descriptors and list of additional sources of audiovisuals. One flaw: entries from first edition listed separately from second-edition entries.


Lists approximately seventy films that may be effective in changing attitudes toward persons with disabilities by presenting accurate information about the disabled. Lists title only in alphabetic and subject indexes. Broad subject divisions are by disability. Descriptive annotations. Provides rental/purchase information in most cases. Various formats included.


Lists approximately ninety audiovisual titles dealing with this dual-sensory handicap. Contains brief summary as well as format and availability information. Suggests audience in some cases. Most of items are available on free loan but a good number have a pre-1976 production date. Materials are geared toward professionals, parents of deaf-blind, and advocates for deaf-blind individuals. Valuable as one of few selection tools devoted to deaf-blind materials, but list needs updating.


(The fourth edition of this index was not available for examination at the time this article was written.) Uses the subheading rehabilitation under the subject heading Health
Rehabilitation Literature


Lists seventy-one titles in English on mental and physical rehabilitation. 16mm format. Includes sales distributor list, alphabetic title index, list of subject categories, and index by subject. Evaluative reviews state potential usefulness. Many foreign producers are included.


Lists ninety-one titles of films and videotapes for rental; several titles listed for sale. All items have summary and review. Forty-seven subject categories used. Catalog also has an alphabetic index by title with reviews listed alphabetically by title. Films tend to be directed more toward general audiences than professionals.


Lists approximately 100 titles under section “Disabilities, Rehabilitation, and the Disabled.” Titles of interest to professionals in area of rehabilitation are listed in other sections of the catalog. Excellent as selection tool for inexpensive or free rehabilitation audiovisuals.

Programs for Rehabilitation Film Festivals.

Programs usually contain a listing of competing films and sometimes advertising space for audiovisual producers or film libraries relating to rehabilitation. An example is the program for the International Rehabilitation Film Festival sponsored by Rehabfilm. The Directory of U.S. Film Festivals is available to locate appropriate festivals. Copies of the latter are available from: Festival Director, Learning Resources Service, Southern Illinois University, Carbondale, IL 62901.


Lists 287 audiovisuals for professionals developed by and/or currently available through the nineteen research and training centers. Formats grouped under each research and training center are (1) audiocassette or disc; (2) film, slide, overhead transparency, or filmstrip; (3) videotape; and (4) other. Includes brief description of content, recommended audience, and availability information. “Recommended follow-up” is also provided but most items are listed as self-contained units. Subject headings are fairly specific. Includes index of lecturers.


Contains section of reviews devoted to films in one or two subject areas and feature reviews of new audiovisuals. Includes articles on recent technical developments, lists of upcoming events, feature interviews, or bibliographies. Reviews other audiovisual selection tools and provides an extensive review of one film per issue. Reviews always contain ordering and availability information and usually contain purchase recommendations and suggested audiences. Worthwhile selection tool.


Not limited to this organization’s films. Lists about eighty audiovisuals; most available for a minimal rental fee or free. Provides summary, information on multiple formats, multiple distributors, and long/short versions. Indexed by twenty-nine broad subject categories. Agency index only lists names, not addresses. Symbol N/A used for several purposes. Lists other free film catalogs of materials not in this guide.


Lists approximately three to six 16mm films in each issue. Provides mainly descriptive annotations; some suggest possible uses of the materials.
Collection Development and Preservation in 1980

Rose Mary Magrill

Although 1980 saw hundreds of librarians gathering for meetings devoted to one or more aspects of collection development, the topics discussed represented, for the most part, new variations on old themes. This reviewer suggested last year that attitudes about collection development, as well as the procedures used, were being adjusted in response to the declining financial resources of most libraries. Events of 1980 furnish additional support for this contention. Doing the best possible job with the money available is the underlying theme of much that happened in 1980, which was a time of widespread staff involvement in planning and policy formulation, both locally and in resource-sharing organizations; continued controversy about the methods and value of user studies and other quantitative approaches to collection evaluation; renewed searching for more efficient acquisition systems; and increased efforts to preserve what has already been collected.

The review that follows will consider first the activities of the federal government and the publishing industry which helped to set the environment within which libraries operated in 1980. Following that, the topics of collection rationalization, materials budgeting, user studies and collection analysis, resource sharing, acquisitions methods, preservation, and security will be discussed in terms of key issues, major events, and representative publications.

Federal Government Activities

Looking at events in a year marking the beginning or ending of a decade always invites a quick comparison with the situation of ten years earlier. In the case of federal funding for library resources at the college and research levels, that look into the past is somewhat disheartening. The review of acquisitions for 1970, published in this journal, reported that the Higher Education Act (HEA) Title II appropriations for fiscal year 1970 were approximately $21.6 million (of which $5.8 million was transferred to the Library of Congress for the National Program for Acquisitions and Cataloging). Even ignoring ten years of inflation, which is not an insignificant consideration,
one can hardly view the FY1980 appropriation of approximately $12 million for HEA Title II as a sign of strong federal support for library resources. The breakdown of these appropriations for FY1980 shows Title II-A, College Library Resources, receiving $4.9 million; Title II-B, Training, $667,000; Title II-B, Demonstrations, $333,000; Title II-C, Research Libraries, $6 million. These programs are funded at the same rate through June 5, 1981, except for Title II-B, Demonstrations, which was raised to $500,000.3

Fiscal year 1980 was the third year research libraries received grants under Title II-C of the Higher Education Act. The largest grant, nearly $1 million, went jointly to the University of California at Berkeley, University of California at Los Angeles, and Stanford. Grants providing for identification and acquisition of materials in specified areas went to the American Museum of Natural History, the University of Arizona, Brown University, University of Chicago, Cornell University, Duke University, the University of North Carolina at Chapel Hill, North Carolina State University, and the University of Illinois.4,5 Several other proposals receiving grants either focus on or include as an important feature the preservation of specified research collections.

HR 5192, the Education Amendment of 1980, a five-year extension of the Higher Education Act, was signed by the president on October 3, 1980.6 Provisions of HEA Title II-A, College Library Resources, raise the basic “Resource Development Grant” from $5,000 to $10,000 and delete supplemental grants. Authorization levels are set at $10 million for FY1981, $30 million for each of the next three fiscal years, and $35 million for FY1985. HEA II-C, Strengthening Research Library Resources, was continued with little change, but accompanied by the urging of the Senate Labor and Human Resources Committee that grants be divided among a greater number of institutions. Only twenty-seven research libraries in sixteen states benefited from the Title II-C grants announced in 1980. Authorization levels for the extension of Title II-C are $10 million for FY1981 and $15 million for each of the next four years.

Even though Title II-D of the Higher Education Act extension provides for a nonprofit National Periodical System Corporation, the likelihood of a national periodicals center seems to be quietly slipping away. After years of debate and numerous meetings and reports, the conflicting interests of the various parties to the discussion are no easier to resolve.7 The Senate Labor and Human Resources Committee report labeled the creation of a national periodicals center “one of the most controversial issues to confront the Committee” during its deliberations over the HEA extension.8 Title II-D, which will receive funds only if Titles II-A, II-B, and II-C are funded at FY1979 levels, establishes a corporation to “assess the feasibility and advisability of a national system and, if feasible and advisable, design such a system to provide reliable and timely document delivery from a comprehensive collection of periodical literature.”9 Such a design must be submitted for congressional approval by December 31, 1981, and no funding for FY1981 is anticipated.10
The proposed revision of Title 44 of the U.S. Code concerning government printing and distribution of documents continued to receive attention from congressional committees and subcommittees, but no final action was taken in 1980. Those who want to know about Title 44 revision without wading through committee reports or gathering the story in bits and pieces from newsletters may find Phillips' overview of the reform bill, its preparation and provisions, to be helpful.\textsuperscript{11}

Copyright issues surfaced again in 1980, with most attention focusing on two activities—a copyright infringement case filed by seven publishers against Gnomon Corporation, a campus copying company operating branches near Harvard, Yale, Cornell, and Pennsylvania State universities; and the beginning of information gathering for the five-year review mandated by the Copyright Act of 1976. The real meaning of the out-of-court settlement between the publishers and Gnomon is still being debated, but there is no doubt that it was encouraging to publishers.\textsuperscript{12,13} Immediately after the settlement, which gave publishers back royalties as well as the right to inspect Gnomon's records to ascertain the company's future compliance, the Association of American Publishers announced that it would increase its efforts "to monitor activities of other commercial copiers, the inhouse photocopying done by large for-profit corporations, and the practices of not-for-profit institutions."\textsuperscript{14}

The five-year review of the new copyright law, which is scheduled to be presented to Congress on January 1, 1983, has begun with a series of public hearings on library photocopying and copyright, held around the country, and the awarding of a contract to King Research, Inc., for a national survey of libraries, publishers, and library users to determine whether the 1976 copyright law has "achieved a balancing of the rights of creators of copyrighted works and the needs of users who receive or make copies."\textsuperscript{15} The survey will gather data during 1981 from a sample of 500 libraries, 150 publishers, and 1,250 users questioned on-site in 25 libraries.\textsuperscript{16,17}

Copyright discussions usually find librarians and publishers on opposite sides of the table, but both groups found an issue in 1980 on which they could agree—the need to overturn an Internal Revenue Service (IRS) ruling on inventory accounting practices. In January 1979, the U.S. Supreme Court ruled in favor of the IRS position in a case against Thor Power Tool Co. The court's decision made the depreciation of warehouse inventories for tax purposes illegal unless the inventory was offered for sale at reduced prices or destroyed. In February 1980, the IRS ruled that the Thor decision would apply to all taxpaying companies in the United States—including publishers—and that the changes would be applied retroactively to 1979. Publishers' reactions have varied, depending on their present accounting procedures and inventory policies.\textsuperscript{18} Some point out that paperback publishers will generally be less affected than hardcover publishers and that specialized publishers and those committed to their backlists will suffer the most. In some ways, the reaction of librarians to the ruling seems more consistently and strongly negative.\textsuperscript{19} High interest rates
have already created pressures leading to more remaindering and shorter "in-print" periods for many books. The possible further reduction of publishers' backlists, as well as the more cautious acceptance of limited-market manuscripts by publishers, is viewed with great apprehension by librarians.\textsuperscript{20} Efforts to have Congress delay or modify the implementation of the \textit{Thor} ruling failed in 1980 but undoubtedly will be pushed again in 1981.

\textbf{PUBLISHING}

In general, observers of the publishing scene have viewed trends of 1980 with pessimism. In a provocative examination of the current state of American book publishing, Whiteside argues that the publishing industry has been transformed in fundamental ways in the past two decades.\textsuperscript{21} Among the areas of most concern are shifts in ownership, changing relationships between hardcover and paperback publishing, the money and effort being spent to promote some books, and the rising influence of bookstore chains.

Concentration of ownership and control in publishing has been a concern for a number of years. It is clear that privately owned companies have been converted into publicly held corporations, that mergers have taken place, and that many conglomerates have absorbed publishing houses. What is not clear is the final effects of these shifts of ownership on the supply of books available to libraries and individual buyers. One group of analysts, among whom is Whiteside, believes that conglomerate ownership means pressure to maintain an acceptable cash flow by emphasizing best-sellers at the expense of authors with a steady but small following or new authors untested in the marketplace. "What seems to have happened in publishing in this respect is that the economic threshold below which an author's work is considered something that a company just cannot afford to handle has been raised over the past decade or so to the point where, in effect, various works of at least some literary merit that previously would have been published are now less likely to be kept in print."\textsuperscript{22}

High manufacturing costs and rising interest rates discourage all types of publishers from heavy investment in backlists. For several years, \textit{Publishers Weekly} has been following closely what publishers do with their backlists. The conclusion of \textit{PW} is that publishers can and do make money on their backlists; that some publishers, in fact, rely heavily on income from older books.\textsuperscript{23} Although mergers may be producing large publishing concentrations, small independent publishers continue to spring up in most parts of the country and to issue books on a wide variety of topics. The publishing attitudes attributed to conglomerate ownership—emphasis on popular, quick-selling titles and unwillingness to experiment with new ideas and new authors—are, as some point out, likely to be just as evident among independent publishers.\textsuperscript{24}

The changing relationship of mass-market paperback and traditional hardcover trade publishing is one of the most prominent trends in the publishing industry and was the focus of the 1980 Bowker Me-
memorial Lecture. Dystel, in that lecture, predicted: "We are witnessing a melding phenomenon in trade publishing, where the industry is moving from a horizontal, stratified business into a vertical, integrated totality; and the increase and intensity of this melding process may prove to be the greatest change of all."  

Original paperback publishing has grown tremendously over the last few years. It is no longer possible to identify a format with a particular kind of editorial oversight or marketing arrangement. A recent Publishers Weekly survey reports that "paperbacks now outnumber hardcover 2:1 in the nation's bookstores." A prominent feature of the paperback industry today is the competition for the reprint rights of best-sellers—a competition that involves fantastic amounts of money and reaches new highs with each major auction. These auctions have also focused more attention on authors' agents, who appear to be playing a more active, or at least public, role in publishing practices. "From various sectors of publishing come persistent rumblings that agents are growing tougher, more powerful, even more ruthless."  

Publishers Weekly reported in 1980 that the money book publishers spend to advertise books to consumers (as distinct from what they spend to advertise to bookstores and libraries) has nearly doubled in the past five years. Appearances of authors on tours and television and radio talk shows have become such an important feature of book promotion that the personality of the author may become a more important factor in a book's success than its contents. Noting this trend with disapproval, Whiteside predicted: "... the trade-book business seems on the way to becoming nothing more than the component of the conglomerate communications-entertainment complex which happens to deal primarily with publishing books." The unfortunate aspect of book marketing is not so much the increasing amount of promotion, although that does add to the price of books, but the fact that most promotion tends to be concentrated on a limited number of mass market titles.  

Scholarly publishing has received less attention from the critics in 1980, but it too suffers from rising production costs and high interest rates. Early in 1979, the technical, scientific, and medical division of the Association of American Publishers was viewing 1980 with some apprehension. Publishers with library sales of more than 20 percent were warned that they would be suffering because of the general decline of library buying power and because research libraries, particularly, were tending to take money from their book budgets in order to maintain serial subscriptions. Scholarly publishers planned to compensate for this potential market restriction by putting more emphasis on sales to individuals and to international markets, by using cheaper production methods, and by raising prices as high as the various disciplines seemed willing to tolerate.  

The final report of 1979 prices for American books, published September 1980, shows an increase of 9.6 percent over 1978 in the number of titles published. The final average price increase for hardcover volumes was 14 percent; art books went up by more than 36
percent; technology books by 26 percent; medicine by 16.8 percent; and business and science each by almost 10 percent.\textsuperscript{33} The preliminary figures for 1980 publications indicate declining title output in most categories and a continuing rise in average prices.\textsuperscript{34} When volumes costing more than $80 were eliminated from the calculations, an average increase of about 15.5 percent was found for a group of major subject categories. According to the preliminary estimates, the average 1980 price per volume ran more than $30 for law, medicine, science, sociology, economics, and technology. A price index compiled for nonprint media shows an increase in prices for all categories—16mm films, filmstrips, multimedia kits, sound recordings—since 1972, the base year.\textsuperscript{35} However, not all categories increased between 1979 and 1980. One publisher put into print his complaints, undoubtedly shared by many other publishers, about library practices which contribute to the rising costs of book promotion and distribution.\textsuperscript{36}

British book prices, which have been rising as rapidly as U.S. prices, appeared to level off in 1980, at least according to one report. British adult nonfiction published May–August 1980 averaged only 4 percent higher in price per volume than did those volumes published during the comparable period in 1979.\textsuperscript{37} For all categories of British publications during the same period, the price increase averaged less than 2 percent. Although these incomplete figures may imply that British books are a bargain these days, Schenck and Williams concluded, after studying prices of a random sample of 100 titles currently available in Britain, that a large percentage of British books are available in U.S. editions at a lower average cost.\textsuperscript{38}

**RATIONALIZING COLLECTION DEVELOPMENT**

Collection development specialists continue to emphasize the need to analyze and understand present procedures for collection building, as well as the importance of viewing collections in terms of broad, long-range objectives. Hamlin provides an overview of the selection process—how it fits into the collection development process, who may be involved, special problems, etc.—while Dudley reviews typical patterns for selection involvement and responsibility in various types of libraries.\textsuperscript{39,40} Arguing that day-to-day selection decisions must be guided by a clear view of the end result desired, Peterson proposes four types of theological libraries and discusses them in terms of what they should be collecting.\textsuperscript{41} Concentrating on smaller academic libraries, Baughman and others report on a questionnaire survey of faculty, administrators, and library directors at four-year colleges, through which they tried to gather opinions on such issues as who should be involved in formulating collection development policy and which factors are most important in determining materials to be collected.\textsuperscript{42}

The continued attention to collection development policy statements, one of the visible results of staff planning, has resulted in more examples of policies and additional advice on how to organize such a project.\textsuperscript{43} Miller, as an academic librarian, and Livingood, from the viewpoint of a school librarian, point out the usefulness of such poli-
cies as a defense against critics. Proving once again that even large research libraries can put their complicated collection development plans on paper, the University of California at Berkeley published the preliminary edition of a policy statement for its general library. The Library of Congress continued to work toward updating and rationalizing its own collection development policies—particularly in the areas of U.S. local history, U.S. state publications, and publication by and for ethnic groups in the United States.

Some collection planning focuses on specific types of materials. Government documents and alternative materials are just two problem areas that were discussed in the literature of 1980. Hernon considers the collection of government publications from several angles, emphasizing federal documents, but also giving some attention to state, municipal, and United Nations publications. Others offer practical suggestions for collecting local documents or describe how cooperation with a depository library assisted one medical library in building its document collection. Morton provides the text of a collection development policy for the documents collection at Carleton College, a partial depository library for U.S. documents. Collection Building devoted an entire issue to the Alternative Acquisition Project of Temple University.

Archival responsibilities of libraries appear to be receiving more attention; several people were moved to record their thoughts on the matter in 1980. Ratcliffe argues that university libraries should collect and preserve manuscripts and archives collections closely related to the research and teaching interests of the university. Burckel reports on a survey to learn what colleges and universities are doing to obtain modern business records, while the collecting of working papers in business and economics was the concern of two surveys for which Koch and Pask present findings. Henry reviews trends and collecting techniques of archival collections "that focus on groups defined by sex, race, or ethnic origin" and urges the establishment of acquisitions priorities.

**BUDGETING**

In the introduction to his comprehensive review of library materials budgeting in private universities, Lynden emphasizes once again the financial environment in which collection development efforts must proceed. "Budgeting restraints remain in 1980 one of the most serious, if not the most serious, of problems facing academic libraries in America. The shrinking dollar value in the face of inflation and the stabilization of library budgets has had a significant impact on collection development." Under these conditions it is not surprising that several thoughtful discussions of the budgeting process appeared in 1980. Martin discusses book budget allocation in general terms—factors that influence allocation procedures and special problems of allocation. Sweetman and Wiedemann review the arguments for and against allocation and the types of variables that may be incorporated into a formula. In addition to providing an overview of the litera-
ture on budgeting for library materials, Lynden provides detailed information on the budgeting process in twelve large private libraries, emphasizing "the formation of the budget itself, the relationship between the materials budget and collection development, and the influence of interlibrary cooperation on materials budgets."60

The Systems and Procedures Exchange Center (SPEC) of the Association of Research Libraries (ARL) issued two SPEC kits in 1980 that should help librarians with the budgeting process. SPEC Kit No. 60, Library Materials Cost Studies, emphasizes the need for cost data reflecting "the unique purchasing pattern of research libraries."61 As a result of the U.S. Office of Management and Budget revision of its guidelines for determining costs of federal contracts and grants, librarians in research libraries now find that they must work with university administrators to develop new methods for allocating library costs: "...it appears that the role of the library has become more crucial in this effort in the past three years, in terms of gathering and analyzing increasingly detailed cost accounting information and in terms of developing improved methodologies for justifying equitable indirect cost payments."62 As SPEC Kit No. 64, Indirect Cost Rates in Research Libraries, observes, studies on costs of collections, staffing, types of users, etc., are becoming more sophisticated.

**USE STUDIES AND COLLECTION ANALYSIS**

The pros and cons of library use studies as collection planning tools continued to be sharply debated. The topic was found on conference agendas, as well as in the literature. The Acquisitions Preconference in New York in June was the setting for one discussion, led off by a paper prepared by Axford, who predicts that "the long-term collection use study will become widespread and that it will result in fundamental changes in the way library collections are managed in the decades ahead."63 In his response to Axford's paper, Dudley argues that research collections must try to anticipate future needs of scholars as well as meet present needs.64 A few days after this preconference session, those attending an ALA program session sponsored by the Collection Management and Development Committee of RTS 5's Resources Section heard Lancaster and Osburn talk of how user data may be collected and warn of the limitations of such data.65 The Pittsburgh Study, already a byword among collection development officers, is still being discussed.66

Several general analyses of use studies appeared in 1980 in addition to specific use study results. Broadus defines use studies, reviews problems with conducting and applying them, and identifies important conclusions to be drawn from the studies already done.67 McGrath argues that the problems of collection development must be considered in the context of collection use and reviews the methodology of circulation studies.68 With Council on Library Resources funding, a team working through the Associated Colleges of the Midwest produced a manual for measuring the use of circulating collections in small academic libraries.69 Fitzgibbons and Subramanyam review and
consider the collection development applications of citation studies in social sciences and science and technology, respectively. Hodowanec attempts to identify variables related to the use of library materials. Examples of how use data may be collected and analyzed are supplied by Bastille and Mankin for the Massachusetts General Hospital. Daugherty for the University of Illinois, Lawrence and Oja for the University of California Davis and Santa Cruz Campus Libraries, and Nimmer for Ohio State University. The SPEC Kit *Indirect Cost Rates in Research Libraries* also gives examples of how several university libraries have attempted to collect information on users.

The Collection Analysis Project (CAP) of ARL's Office of Management Studies (OMS) continued with an active program in 1980. The interim report by the CAP study team at the University of Illinois was published. The Universities of Maryland and British Columbia began modified collection analysis projects. Other libraries—among them those at Notre Dame, McGill, and Franklin and Marshall universities—were expected to begin CAP studies by early 1981. OMS also announced the publication in 1980 of a completely revised CAP manual, one that includes "chapters on the history and description of the collection, environmental forces influencing collection development, collection goals and policies, materials and allocation, collection operating practices, collection assessment, resource sharing, and preservation."

Collection evaluation or analysis was also carried on in 1980 outside the formal structure provided by ARL. Nisonger reports on a project at the University of Manitoba and Craig and Strain summarize findings of a study at the National Library of Medicine. In a general article on collection evaluation, Mosher discusses why and how to evaluate a collection.

One logical step after collection analysis is review of the collection for storage or preservation. Hickman and Mosher, both focusing on academic libraries, discuss some of the issues involved in weeding collections. The technique proposed some years ago by Trueswell for identifying low-use items in a collection is still being discussed and applied. Weeding criteria developed and applied in specific libraries have also been reported. Storage of library materials is the subject of two articles—one by Cassata, the other by Line—in a recent volume of the *Encyclopedia of Library and Information Science*. Fuhlrott identifies four stages as typical in the development of a storage library project and illustrates with comments on specific projects and procedures. A research report from the University of California Systemwide Administration develops and applies a cost model to examine the economic aspects of weeding for compact storage. Reed presents findings of a study to identify materials for storage, and Thompson compares the real and hidden costs of different methods of storage.

**RESOURCE SHARING**

Most of the attention directed to resource sharing in 1980 focused on the sharing of bibliographic information and the competition of
the various networks. Robinson, in an article on economic and technological factors affecting the rise of the four major networks operating in the United States, emphasized the competitive and cooperative aspects of their relationships. However, some of those taking a broader view of resource sharing have at least touched on cooperative collection development—Kaiser and Stevens are examples of this approach. Bob looks at what public library systems can do for collection development, with specific suggestions for the New York state system, and Keally traces resource sharing developments, problems, and possibilities in Tennessee. Research libraries, networks, and resource sharing are dealt with by Battin and DeGennaro, Wilson and others discuss the rights and responsibilities of participating libraries, librarians, and users in interlibrary cooperative ventures.

The memberships of the Research Libraries Group, Inc. (RLG), reached twenty-two before the end of the year. With the change in RLG rules for membership that occurred in 1980, the State University of New York at Binghamton became the first to join in the new category of associate member. Associate members agree to contribute to the online catalog and may participate in any of RLG’s other programs. Planning for cooperative acquisitions and resource sharing by members continued at a steady pace. The first issue of the new RLG newsletter, started in July 1980, describes a cooperative purchase file maintained as part of the Research Libraries Information Network. A potentially important source of information for selection decisions, this file “contains the reports of purchase orders made by member institutions for both new serials and all items (other than serials or rare books) with a value of more than $500.”

As in previous years, the literature on resource sharing can be divided into the “applied” (reports on specific cooperative projects) and the theoretical. Relatively few representatives of the latter group were identified this year, but Rouse and Rouse with their case studies using mathematical modeling techniques, Cohen and Vijverberg applying game theory to library networks, and Kang and Rouse using forecasting techniques to predict demand for network services are good examples of this type of approach. Even the articles on specific projects were not as numerous in 1980 as in previous years, but there were some: providing a retrospective view of the ACM Periodical Bank; describing the Cooperative Journal Program of the Interuniversity Council of the North Texas Area; explaining how a group of hospital libraries developed a cooperative system for selecting and retaining journals; and reviewing the history of the cooperative acquisition project for fiction of public libraries in London, England. Resource sharing in other countries is, in fact, well represented in the literature of 1980. As one example, the International Library Review devoted most of each quarterly issue to the papers presented at a 1979 international conference on resource sharing in Asia and Oceania.

**Acquisitions Methods and Procedures**

The need for more efficient acquisition of new materials always directs a certain amount of attention to the acquisition process itself—
attention which may result in descriptions or analyses of an individual library's operation. Providing a good example of the kind of information all staff members need to have about acquisitions department operation, Cornell University published a revised edition of its manual for the searching of monographic orders. Illustrating the descriptive approach, O'Brien provides a general outline of the steps involved in acquiring materials, emphasizing the capabilities required of an automated system. Concern for records and forms is evidenced by Dickson's study of the format and content of order forms used by a sample of 100 law libraries. Beginning acquisition librarians will probably find useful the glossary of business terms and phrases published in Information Reports and Bibliographies. Law, reporting on a survey of acquisition and processing in Edinburgh University Library, provides an example of the analytical approach being undertaken in many libraries.

Automated acquisitions systems were in the news all during 1980, thanks partly to the traveling road show of ALA's Library and Information Technology Association (LITA). LITA put together a two-day institute on the topic "Automated Acquisitions Systems—or Does Your Library Acquire Materials Bit by Bit?" and presented it twice—in Nashville, Tennessee, in December 1979, and in Vancouver, British Columbia, in May 1980. Papers from the institute were then printed in the September and December issues of the Journal of Library Automation. Speakers included Boss on the function of acquisitions, Gozzi on locally designed systems, Bierman on vendor systems, Madden on the network role, Woods on the compatibility of acquisitions, cataloging, and circulation systems, Kountz on how to determine the most appropriate system for an individual library, and Uden, Furlong, and MacIntosh with case studies from the University of Massachusetts, Northwestern University, and Mississauga (Ontario) Public Library, respectively.

Other articles and reports on automated acquisitions systems appeared in a variety of journals in 1980. Library Acquisitions: Practice and Theory published eight papers dealing with the interface of automated acquisitions and circulation systems. Among the operating systems discussed were those at the University of Guelph, the Atlanta Public Library, Northwestern University, the Western Australia Institute of Technology, and the University of Alabama in Birmingham. Other journals carried articles by Bruer, commenting on the kinds of information an automated acquisitions system ought to be able to produce; Lukac, describing a system developed locally for Pacific University in Oregon; and Potter, giving a brief overview of the automated acquisitions systems in use in Illinois' academic libraries.

Leaner materials budgets usually lead to more careful consideration of every aspect of collection development. For some this means doing more careful local selection and pulling back from approval plans or any other vendor-designed system for identifying the collection's needs. Others, however, look more closely at these plans and the advantage they may offer in discounts, speed of service, and freeing
of staff from more routine selection. (See Stueart for a review of the
development of blanket order/approval plans and their advantages
and disadvantages.\textsuperscript{117}) Declining staff due to decreasing budgets, con-
cern about changing inventory policies of publishers, and general in-
efficiency of some acquisitions systems all create pressures that have
led some librarians to take another look at approval plans. Whatever
the reasons—and they probably differ with each situation—interest in
approval plans is experiencing a resurgence. A 1980 national survey
of ninety-five randomly selected academic libraries shows that nearly
three-quarters of those responding are using an approval plan for
domestic publications and that these libraries average “4” out of a
possible five points when asked to rate their satisfaction with their
plans.\textsuperscript{118} Approval plans were the topic of one session at the Acqui-
sitions Preconference in New York, where speakers, as usual, disagreed
on the advantages and disadvantages.\textsuperscript{119}

Since prompt and clear communication of collection needs from li-
brary to vendor is essential for successful approval plan operation, the
amount of effort that librarians have been putting into analyzing their
collections and writing collection development policies must necessarily
improve the chances of their success with approval plans. Vendors
also speak of the improved service they can offer because automation
allows a more complex record of a library’s subject profile, as well as
rapid revision when necessary. With the improvement in its ability to
provide individualized service, one vendor’s predictions for the near
future include more use of approval plans by smaller academic librar-
ies and more libraries “at separate institutions, as part of resource
sharing, also sharing an approval plan profile.”\textsuperscript{120}

Although retrospective buying is one area Lynden found to be suf-
f ering in the present budget crunch, the acquisition of out-of-print
materials did receive some attention in 1980.\textsuperscript{121} Larsen reviews useful
techniques for locating and obtaining retrospective materials,\textsuperscript{122} and
Kaiser offers the smaller library practical suggestions on searching for
out-of-print books.\textsuperscript{123}

The acquisition of foreign materials is another problem area that
never fades completely from workshop and conference schedules or
library literature. The Seminar on Latin American Library Materials
held its twenty-fifth meeting on the general theme of “The New Per-
spective for Library Resources on Latin America for the 1980s.”
Speakers covered problems of acquisition and description of Latin
American materials and the need for resource sharing and
preservation.\textsuperscript{124} Deal also discusses problems and projects related to
Latin American materials.\textsuperscript{125} The characteristics of the Western Euro-
pean book trade are reviewed by Welsch,\textsuperscript{126} while Luciw supplies prac-
tical comments on acquiring Slavic materials.\textsuperscript{127}

International exchange is an important way of acquiring materials
from some parts of the world. Yu outlines common aspects of the gift
and exchange programs operated by U.S. libraries to obtain materials
from Third World countries and goes on to discuss Asian exchanges
in more detail.\textsuperscript{128} International exchange and its relationship to inter-
national lending is the subject of a paper by Allardyce and Vickers and a response by Genzel. International exchange of government publications even became a topic for discussion in Congress during 1980, when consideration of a bill designed to effect a transfer of responsibility for the international exchange of U.S. government publications from the Smithsonian to the Government Printing Office turned into a discussion of the contents of the documents being sent overseas.

The Universal Serials and Book Exchange (USBE) made serious efforts to increase its membership and income. Asked for advice on USBE's financial problems, the Council on Library Resources produced a report recommending that USBE improve its accounting and inventory control. USBE began efforts to automate its services and hopes to obtain funds for "a complete automation system of administrative functions, order processing, and eventually inventory control." Nineteen eighty was also the year that the USBE gained its three hundredth foreign member, with membership now representing fifty-six countries outside the U.S. and Canada.

Domestic as well as foreign programs are the subject of Kovacic's report on his study of gift and exchange operations in eighteen academic libraries. Scott deals specifically with the Duplicate Books Collection of the Library of Congress' Exchange and Gift Division. The most comprehensive coverage of gifts and exchanges in 1980 is provided by Lane's handbook of procedures for the selection, processing, and dispersal of gifts and exchanges, including sample forms and other working documents.

**Preservation**

During 1980 the Western States Materials Conservation Project, sponsored by the Western Council of State Libraries and recipient of a grant from the National Historical Publications and Records Commission, organized a number of activities designed to make everyone in the western states aware of preservation problems. One of the more significant events was a "Feasibility Colloquium," held in June, which brought together representatives from a variety of institutions in eighteen states. The participants "arrived at a consensus on a master plan for preservation and conservation of materials in the West that includes recommendations for both short and long-term activities from local to national levels." Lowell and Day have reported on the project's plans and activities. One western state has already taken steps to develop a state plan for library materials conservation. The Colorado State Library has contracted with the Northeast Document Conservation Center (formerly the New England Document Conservation Center) to carry out a survey and prepare such a plan.

Meanwhile, the National Endowment for the Humanities (NEH) set up a Conservation and Preservation Program in its Research Division to administer "a national campaign to save endangered humanities resources." At the same time, NEH issued two grants designed to benefit a large number of libraries. The Northeast Document Con-
servation Center received $125,000 to enable it to “provide 30 to 40 small and medium sized libraries and archives with short-term, on-site consultation on the storage, handling, and care of historical collections of books, manuscripts, photographs, and other materials.” With its grant of nearly $158,000, the Society of American Archivists will “support a nationwide series of workshops, a consultant service, and a manual on identifying and meeting the conservation requirements of an archival institution.”

At the national level, the Library of Congress and the American Library Association are both active in preservation affairs. The Library of Congress' Preservation Policy Committee has been in the process of preparing “a comprehensive plan for the preservation of the collections and a statement of resources needed to undertake a major increase in the Library's preservation capability in the next five to ten years.” The new Preservation of Library Materials Section of ALA's Resources and Technical Services Division enjoyed its first full year of operation in 1980 and presented a program session at the New York Conference on local preservation programs. At the Midwinter Meeting, the ALA Council adopted a resolution on “Preventive Preservation,” which requests that the Library of Congress Center for the Book call together representatives of organizations “responsible for the several elements which make up the printed volume . . . to join in a cooperative effort with ALA and other members of the library community to urge the production of books which will endure as long as they are needed.”

Local preservation activities are spreading so rapidly that it would be impossible to compile an accurate summary of them. Reports of a few of these projects were published in 1980. DeLorge and Thompson describe preservation activities at the Oregon Historical Society, Fitzgerald at the Library Co. of Philadelphia, Kelly at the Library of Congress Preservation Office, Morrow at Southern Illinois University, Reed at the Book Preservation Center of the New York Botanical Garden Library, Walker at Yale University, and White-Zeigler at the University of Utah.

The literature on preservation in 1980 includes inspirational pieces, surveys, and practical suggestions for handling specific problems. In two separate papers, Darling explains the preservation side of collection development and emphasizes the need for all librarians to be sensitive to the problems of preserving library materials. Baker and Fitzgerald both provide introductions to preservation programs, procedures, and publications. In a paper prepared earlier but distributed during 1980, Cunha outlines what an institution can do to survey its conservation needs and provides examples of forms used at the New England Document Conservation Center (now the Northeast Document Conservation Center). Smith discusses causes of paper deterioration and methods for deacidification, as well as considerations in selecting a deacidification method. Efforts to develop criteria that will identify materials in poor physical condition are the subject of two reports. ARL issued two useful SPEC Kits—Planning for Preserva-
tion, which provides examples of planning reports, policy statements, etc., and Preparing for Emergencies and Disasters, with excerpts from reports, manuals, and plans for handling disasters and salvaging library materials. Shep and Swartzburg both provide nontechnical introductions to preservation methods. Late in 1980, the Special Libraries Association (SLA) announced publication of the proceedings of a 1979 conference on preservation sponsored by the SLA Princeton-Trenton Chapter and the Library Binding Institute.

SECURITY

Security of collections continued to be a serious problem during 1980. Library Journal reported, for example, that eighteenth-century travel and exploration books were disappearing all over the country. Harvard asked the FBI to investigate the apparent loss of more than one hundred fifty rare books and two hundred valuable plates from the library of the Museum of Comparative Zoology. Gouke and Murfin report on a study at Ohio State University to determine if a public relations program reduces mutilation. The Rare Books and Manuscripts Section of the Association of College and Research Libraries decided in 1980 to take action on the security problem. An ad hoc Committee on Security was established to collect information about rare book thefts, review existing procedures for theft alert and recovery, and establish guidelines on security for librarians and antiquarian booksellers.

CONTINUING EDUCATION

Ten years ago this annual review was called "Acquisitions in 1970"; in 1974 the title was changed to "Resources"; and last year the term "Collection Development" was used to describe its contents. Even before the title change, the review article for 1973 identified "an emphasis on collection development as a sign of the times," and it is clear that publishers now regard "collection development" as a topic with good sales potential. Excluding publications on specialized areas of collection development or on building one type of library collection, and looking only at works that attempt to be comprehensive, one finds that—in 1979, 1980, and the first month of 1981—three new textbooks, revisions of two older textbooks, two collections of readings, and a two-volume collection of original papers on various aspects of the subject have been published. Anyone who feels the need for an overview of collection development ought to be able to satisfy that craving.

RTSD's Resources Section Collection Management and Development Committee continues work on guidelines related to various aspects of collection development. A draft of "Guidelines for Resource Sharing" was distributed for comment, and a draft of "Guidelines on Use and User Studies" was promised for the 1981 Midwinter Meeting of ALA.
nent was probably the Third Acquisitions Preconference, sponsored jointly by the Resources and Technical Services Division of ALA and the Association of American Publishers. Held June 26–28 at New York University and following in the tradition of preconferences at Atlantic City (1969) and Chicago (1972), this one brought together a sellout crowd of approximately four hundred librarians, publishers, and booksellers to discuss the theme “Acquisitions for the Eighties: Selection, Sources, Spending, Sharing, Systems, Standards, Staffing.” The first day was spent in trying to identify the issues that may affect acquisitions in the decade ahead; the second, in looking at the impact of these issues on types of collections and collecting techniques; and the third concentrated on the implications of use studies on collection development and the problems of coping with change.

CONCLUSION

Characterizing in a few words the year’s work in an area as broad as collection development and preservation is a difficult task and unlikely to be completely accurate. The year just past was a quiet one, with few exciting controversies or major crises; this reviewer suspects, however, that much was accomplished by collection-development personnel who quietly pursued solutions to problems in several key areas—problems such as recognition of and adjustment to changes in the publishing industry, limited funds and the need to use them wisely, how to detect collection use patterns in an accurate and complete manner, deteriorating collections and the best ways of preserving them, and profitable applications of automation in selection and acquisition procedures. From publications, meetings, and informal conversations with librarians working in collection development, the picture emerges of a group of serious people who know what they want to do and why—individuals determined to understand how collections have been developed, to evaluate past procedures in terms of current needs, and to make whatever efforts are necessary to collect and preserve the materials that will be needed in the future.

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Micrographics, Reprography, and Graphic Communications in 1980

William Saffady and Rhoda Garoogian

As in previous years, this review concentrates on new product announcements and published studies in the fields of micrographics, full-size document reproduction, and video technology. The review is not exhaustive but interpretive. It attempts to identify trends of significance for the present and future of information processing.

VIDEO TECHNOLOGY

Unlike previous years, when video technology was included as almost an afterthought to other aspects of graphic communications, it was in the forefront in 1980. Considerable attention was given to the information-processing potential of video technology, including videotape, videodisk, video conferencing, and video-oriented database services (the so-called "videotext" services). Most of the emphasis was, however, on potential rather than on actually available products or services. Attention was focused principally on video information-recording-and-storage media—specifically, videotape and videodisk. Videotape cassette recorders have, of course, been available for several years, and models announced during 1980 represented enhancements to existing product lines rather than new technological approaches. New operating features, designed primarily for the home entertainment market, included multiday programmability, multispeed scanning, and the ability to freeze a single frame for prolonged display. The two incompatible formats—Beta and VHS—were joined by a third, as Technicolor introduced a portable recorder that accepts a smaller cassette of proprietary design. Videodisk systems, much discussed but previously available in only selected geographic markets, were offered for sale nationwide in 1980 with the introduction of products by Magnavox and U.S. Pioneer Electronics. Both systems are based on the optical recording technology developed by Philips and MCA, in which lasers are used to record and subsequently replay recorded disks. A second, nonoptical system, developed by RCA, was introduced early in 1981, and a third system, developed by Japanese Victor Corporation (JVC), will be introduced in late 1981 or early 1982.

While existing applications have been largely limited to entertainment,
several studies discussed the educational and information-processing potential of video technology in general and videodisk in particular. Donath cited the information market, along with home entertainment, as an area for future growth. Rolph contended that by the end of 1981 the total market for videodisks will exceed the market for color television. Among nonentertainment applications, Stafford and Riley discussed the use of videotape systems to reduce the time needed for certain industrial engineering operations in manufacturing plants. Similarly, Wollman described the role of video as a tool for information dissemination at American Express and other companies. Several sources discussed the potential applications of videodisks in libraries and information centers. Savage described the information-storage capacity of videodisks, as did an anonymous article in *American Libraries*. Schipma and Becker maintained that videodisk storage of textual information is both technically and economically viable for library as well as classroom use. Dowlin noted the positive implications of videodisk for public libraries. These sources suggest that videodisk technology may prove to be an ideal complement to or may even replace computer-based information storage and retrieval systems. According to Hon, videodisk will prove to be an excellent tool for use in instruction. In combination with microcomputers, it has the potential to supplant live instruction and the book itself.

In a related form of graphic communications, 1980 saw increased interest in video conferencing. As discussed by Rossie and Sonneville this interest was stimulated by improved conference equipment, the introduction of satellite delivery systems, economic conditions, and a concern for gasoline conservation. According to Thomas, the critical factor in this increase in interest is cost. Executives who travel a great deal would welcome the relief brought about by teleconferencing. Mokhoff described the opportunities for the large-scale implementation of high-quality video conferencing. Many companies are ready to offer equipment and communication services for transmitting video images among individuals over considerable distances. As an indication of the expected popularity of video conferencing, selected Holiday Inns began offering specially designed video-conferencing studios connected to one another via satellite communications.

The present and future competitive relationship of video recording and the more conventional technology of micrographics were discussed in articles by Walter and Suthasinekul. Regardless of the future information-storage potential of videodisk, micrographics is presently the more viable information-processing technology.

**THE COMPUTER/MICROGRAPHICS INTERFACE**

In the 1979 predecessor to this article, Saffady discussed the so-called "computer/micrographics interface"—the integration of electronic and microphotographic technologies—as the most important theme of that year. During 1980, the continued high interest in the relationship of micrographics to computer technology was reflected in a number of product announcements and published articles. As in 1979, computer output microfilm (COM) continued to prove itself an established, well-
understood technology—so much so, in fact, that few significant developments can be reported. No truly new COM recorders were introduced, although several vendors added to or modified their existing product lines. The 3M Company, for example, announced its 720 COM recorder, the latest model in a unique line of CRT-type recorders capable of imaging both silver halide and dry silver microfilms. Bell and Howell introduced its 3900 COM recorder, a minicomputer-controlled device capable of 72× reduction. DatagraphiX announced an online version of its popular AutoCOM recorder/processor.

Computer-assisted retrieval (CAR) systems were the subject of considerably more vendor activity, and several significant product announcements were made. Bell and Howell, for example, introduced two turnkey CAR systems: Excalibur and the Data Search 1000. The Excalibur System, which is being sold by Bell and Howell's COM Products Division, is actually a turnkey, minicomputer-based database management system which also has the ability to index and facilitate the retrieval of microimages. Providing online storage for up to 3.5 billion characters, it is the largest CAR system ever offered for sale in a turnkey configuration. The second system, the Data Search 1000, features a smaller minicomputer and offers less storage capacity and fewer database management capabilities. Sold by the Bell and Howell Microfilm Products Division, it features a specially designed input station that links a microfilm camera to a CRT-type indexing terminal. The same input station is used in the Excalibur System. Two vendors announced systems which link computer-assisted micrographics retrieval to digital image transmission technology. The Infodetics 410, an automated retrieval system for aperture cards and microfiche, can be equipped with an image digitization and transmission system based on a combination of laser and fiber optics technologies. Terminal Data Corporation introduced its Scrollfile Information Management System, which permits the storage of up to four million pages of information and their transmission to remote video monitors. Terminal Data Corporation also introduced two devices designed for the capture of index data as a by-product of the microfilming activity. The DIT 4040 and 5001 use optical scanners to read preprinted OCR labels affixed to source documents. Designed for use with the TDC DocuMate II microfilmer, it compiles an index listing on magnetic tape for later input to a computer.

Several vendors announced enhancements to previously introduced CAR systems or CAR-related components. 3M offered two new program diskettes for its Micropoint turnkey CAR system: (1) a check-digit program for the mathematical verification of numeric input, and (2) an ASCII to EBCDIC code translator which permits Micropoint data to be used with certain IBM data-entry and small-business computer systems. Eastman Kodak announced an optional multilevel blip search program for its IMT-100 and IMT-150 retrieval units. The program is designed to be used in conjunction with the multiple blip encoding capability developed for the Recordak Reliant 750 rotary camera. Visual Systems Corporation introduced an online interface for its VISCO controller, a device that converts a conventional roll film reader/printer into a microprocessor-controlled, blip-counting retrieval unit. For applications involving the
conversion of existing microimages to a form suitable for use in CAR applications, Morgan Data Conversion announced its Model 190 Refor-matter, which converts images from microfiche to blip-encoded 16mm roll film suitable for use in automated retrieval units. P.F.A., Incorporated, announced a conversion service to record blips on existing 16mm roll microfilm. Connecticut Micrographics introduced its “blip chip,” an attachment that converts a conventional roll film reader into an auto-
mated retrieval unit.

In addition to these product announcements, a number of articles reflected users' and vendors' ideas about the relationship of micro-
graphics to electronic information-processing systems, especially those designed for office applications. Saffady, in an excerpt from a book to be published in 1981 by the National Micrographics Association, discussed the problem of office automation and the potential contribution of micro-
graphics to office productivity improvement.14 A similar point was made by Avedon in two articles that emphasized the integration of com-
puters and micrographics in automated office systems.15 Keating, the president of DatagraphiX, a COM manufacturer, discussed the role of micrographics in productivity improvement from the standpoint of an equip-
ment vendor.16 Articles by Kalow, Acevedo, and Hallen discussed the importance of interfacing micrographics with electronic office tech-
nologies in general.17 The potential and problems of interfacing micro-
graphics and word-processing systems were discussed in articles by Spence, Kirschner, Follett, and Zientara, although many facets of the subject remain unexplored.18

Compared to previous years, articles about COM during 1980 were few in number and, rather than contributing new knowledge, generally con-
firmed COM's acceptance as an effective and economical computer out-
put alternative in a wide range of business applications. Miller, for example, discussed the development and significance of COM applications at Manufacturers Hanover Trust Company.19 Norris described a variety of COM applications at Sperry New Holland, emphasizing as did Miller, their contribution to productivity improvement.20 Winthrop discussed the use of 72 × COM-generated microfiche at Macy's and Gimbel's, emphasizing the advantages of high-reduction fiche over roll microfilm.21 Bowman discussed the economic advantages of COM in county court applications;22 Polis described the role of COM in insurance applications;23 and Trippe considered the utility of COM in applications involving computer-generated graphics.24 In a more general contribu-
tion, Bujkovsky summarized the major events in the development of COM technology and equipment,25 while a brief but useful article by Traus suggested guidelines for the selection of a COM service bureau.26 On a less optimistic note, Dwyer listed complaints of COM users, including production and maintenance problems, a lack of standardization, and improperly designed use environments.27 Landau likewise emphasized the need for greater attention to the user interface, especially index preparation, in COM systems.28

While CAR systems and components were the focus of new product introductions, as previously discussed, they attracted comparatively little
specific attention in micrographics literature during 1980. CAR systems were, of course, discussed briefly in several of the general articles cited above. Writing in Micrographics Equipment Review, Saffady provided a tutorial article followed by reports on representative available systems. Articles by Campbell, Tauber, and Neary provided an overview of CAR technology and applications, but few useful descriptions of CAR applications were published. On the technology of computer input microfilm (CIM), an article by Anderson, Varson, and Wilkins described the use of the FOSDIC system in the processing of 1980 U.S. census data.

**General Micrographics**

While computer-related systems accounted for the most dramatic product announcements in 1980, micrographics equipment vendors continued to expand their conventional product lines. New tabletop fiche readers were announced by Micro Design, Realist, Situs, Dietzgen, AM Bruning, Microvue, Medrex, Micron, and Topper Manufacturing. Following a pattern established in the late 1970s, these readers tended to be introduced as modularly designed “families” of related models, each varying slightly in projection method, screen size, screen orientation, available magnifications, and other application-related factors. New or improved portable fiche readers were introduced by Visidyne, Microfilm Research Company, Washington Scientific Industries, CMM, Micro Design, and Realist. Information Design introduced a unique cube-shaped portable reader for flat microforms, made by MAP Mikrofilm Apparatebau Dr. Poehler & Co. of West Germany and evaluated in a recent Library Technology Reports, while Topper Manufacturing announced a portable reader for 16mm microfilm cartridges, the only one currently available. Other distinctive new readers included: the Autographics Micromax 800, which accepts an uncut roll containing up to 800 42× or 48× fiche; the DatagraphiX DeskMate, a three-quarter-size collapsible fiche reader designed for installation in a desk drawer; the Microcomparator, developed by Microfilm Research Company, which permits the simultaneous viewing of images from two separate fiche; and the Information Design Programmable/Sequence Random Access Microfiche Display, also made by MAP, a microprocessor-controlled motorized fiche reader with a keyboard of automatic frame selection. For roll film use in libraries and other applications, Bell and Howell announced its Mark II motorized 16/35mm reader. Caps Microfilm also announced a 16/35mm model, which, like the Bell and Howell Mark II, features an 18-by-24-inch screen.

In reader/printer developments, Micron introduced its RP-700, a dry silver device. Minolta announced a 72× lens for its RP-405 electrostatic reader/printer, thus enabling it to accept ultrafiche produced by West Publishing and Commerce Clearing House. Plain paper reader/printers, a long-neglected product group, were announced by Canon, 3M, AM Bruning, and Dybell/Ware and Associates.

Several interesting product announcements reflected the possibility of future growth in source document microfilming applications. Eastman Kodak, for example, announced several new indexing options for its Recordak Reliant 750 rotary camera. One of the year's most interesting
products, the EOM 6100, is a tabletop planetary camera/processor that produces precut strips of 16mm film designed for insertion into microfilm jackets. Designed like a copier, it is being sold by the F. H. Ponce Company and by U.S. Datacorp (as the Datacorp 2000). The Model 4331, a microprocessor-controlled step-and-repeat camera, was announced by Dietzgen, while Terminal Data Corporation introduced its DocuMate I Microfiche camera, a manual-feed, microprocessor-controlled version of its sophisticated DocuMate II automated microfilmer. The Bell and Howell Microx System II, an updatable microfiche camera that uses a proprietary photoplastic film, became available nationwide after a period of controlled marketing. In a related development, A. B. Dick, which already markets one updatable fiche system, acquired the rights to another—the MicrOvonics File developed by Energy Conversion Devices.

Among production support equipment, Kodak announced a high-speed duplicator and a jacket viewer/insserter. Innovative Technology introduced a single-feed diazo/vesicular duplicator, the only desk-top device that exposes and develops copy film in one continuous operation. Keuffel and Esser announced a microprocessor-controlled card-to-card duplicator capable of accepting distribution instructions entered at a keyboard or recorded on floppy disks.

Published studies continued to confirm the effectiveness of source document microfilm in a wide range of applications. Hicks, Hassall, and Smith, for example, described the application of micrographics to tax department records in El Paso city government. Kimmel discussed the use of micrographics at General Tire, while McQuade described its role in the management of financial records at General Foods. Smits discussed the use of microfilm as a publishing medium in a parts information system. Odell described the application of micrographics to the management of engineering drawings. Simmons noted the advantages of microforms in the dissemination of maps and related survey information. Hamilton reviewed the significance of microfilm jackets in insurance file management, while Hallen described the application of micrographics to management of litigation information in the railroad industry. The legal status of microforms, as alternatives to paper documents, was the subject of a book by Williams and an article by Borsa. The substantial international interest in micrographics technology was reflected in articles by Rooke, Botha, Newns, Sturdy, Cramer, and Lambrecht, as well as in several anonymous articles published in the IMC Journal. Gunn discussed the problem of user resistance emphasizing the importance of selecting proper use equipment.

LIBRARY APPLICATIONS

As in past years several studies considered the application of micrographics to library-related problems. Perhaps the most interesting was a study by Hayes of the application of CAR technology to the maintenance of an online microfiche catalog. The paper reports the results of a demonstration project sponsored by the U.S. Office of Education and provides a general description of a system that combines a central computer, a minicomputer, and automated microfiche retrieval equipment.
Most significant is the study’s conclusion that the cost of such a combined system will prove lower than that of total online storage for the bibliographic data maintained by the broad spectrum of libraries. In other library-related articles, Spang and Coller provide a brief review of micrographics activity at Wayne State University. Avedon described the advantages of vesicular microforms. Byrnes reported on the activities of the RTSD Micropublishing Committee’s ad hoc Subcommittee on the Monitoring of Microform Advertising. Johnson discussed the space savings to be realized from the acquisition of government documents in microform. Reed discussed the potential and problems of serials collection development by using microforms. Niles analyzed the advantages and disadvantages of converting serials to microform at the University of North Carolina Library. Thompson discussed the space-saving implications of microforms for libraries generally. Two articles treated facets of micrographics that rarely receive attention in library literature: Yerburgh discussed the problem of library staff development with respect to microforms, and the importance of knowledgeable staff in overcoming user resistance; Whitehead and Frost provided recommended specifications and procedures for the microfilming of card catalogs using rotary and planetary cameras. Articles by Jackson and Hyde reviewed the problem of bibliographic control of microforms, while Plante described the preservation and research significance of microforms at the Hill Monastic Manuscript Library.

REPROGRAPHICS

In the broad field of reprographics, intelligent copiers again attracted the bulk of consumer attention. As noted in last year's review, the exact definition of this product group remains subject to debate, with some analysts including such computer output devices as the Xerox 9700 and IBM 3800 and others restricting the field to those devices that can accept both paper and machine-readable input. In the latter case, the most significant event of 1980 was the introduction of the Xerox 5700, a laser copier/printer which can reproduce paper documents in the manner of conventional Xerox copiers as well as accept input from computers and word-processing machines. The 5700 is designed to interface with the Xerox Ethernet, a network of coaxial cables designed to link a facility's information-processing equipment and simplify the transmission of information among them. To date, the only other product announced for Ethernet compatibility is the Xerox 860 word-processing system. The Xerox 5700 joins the IBM 6670 as the only available representatives of a product group that is expected to increase in popularity throughout the 1980s.

As in past years, the literature on reprographics technology and applications was largely confined to trade journals. Intelligent copier technology was reviewed in articles by Goodstein and Rivers. The continuing improvements in conventional copiers were described by Hanson, Fukae, and Prince. Freedman and others provide a detailed analysis of the implications of new reprographics developments for the publishing industry and public policy.
SUMMARY

Nineteen eighty saw a continuation of the trend toward the integration of technologies previously noted in the Library Resources & Technical Services survey for 1979. In the field of micrographics, vendor and user attention focused on COM and CAR systems as well as on the relationship of micrographics to automated office technologies. In the fields of reprographics, intelligent copiers offered potential for the merger of document reproduction with computers and word processing. The most media and user attention was, however, given to the emerging role of video technology, although the discussion was necessarily limited to potential rather than actual accomplishments.

REFERENCES


Descriptive Cataloging in 1980

Constance Rinehart

Whatever their duties or special interests, most library professionals will consider the advent of a major new catalog code, with its attendant repercussions in staff training, user orientation, file maintenance, and bibliographic control, to be a matter of pertinence and concern both within and beyond their individual institutions. For their information and benefit, the publications of 1980 in the field of descriptive cataloging have attempted to appraise, annotate, interpret, and elaborate on the code itself; to provide guidance for the necessary preparation of library staff and catalog users; and to offer the observations of research as well as conclusions drawn from practical experience on the effects of putting the new code into practice. Machine-based catalog formats continued to form a topic of major interest in the literature; and among the activities of the year some tentative steps were taken toward—and also away from—the ultimate development of a national bibliographic network.

**THE RULES**

In a major summary article on the *Anglo-American Cataloguing Rules*, second edition (AACR2), Simonton observes that “the Anglo-American cataloguing world has not yet been able to produce a code capable of being applied without benefit of a considerable body of supplementary commentary,” and indeed the commentary burgeoned as the library community prepared to come to terms with its new catalog code. On the conceptual side, a valuable contribution was the publication of the proceedings of the international conference held at Tallahassee in 1979, during which the speakers concentrated on principles behind the code’s provisions.

Having surveyed both the theory and the substance of AACR2, Simonton concludes that the new code’s “major strength . . . lies in its treatment of descriptive cataloguing”—that is, in Part I. This view is supported by London, whose article surveys bibliographic description since the French Revolution, blames Cutter for blurring the “basic division between bibliographic description and index or access points,” and suggests that AACR2’s greatest contribution is in its return to this separation of description and access, a principle which permits the creation of separate, uniform, interchangeable records. Wellisch, applying the basic laws of

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cybernetics to information retrieval systems, concludes that complete descriptive bibliographic control is possible and urges increased efforts toward standardization in cataloging rules.  

Part II of the code, on the other hand, has aroused considerable negative comment. Spalding argues that corporate authorship is a valid cataloging principle that has been denied by the framers of AACR2 out of a desire to avoid the creation of special rules for serial publications; and Richmond points out that in AACR2 "a corporate body is defined in such a way as to ignore the dictionary definition. . . . The notion of a 'corporate person' is perfectly legal."7 Weintraub, in a review of cataloging practice relating to choice of entry, name, and form of name for corporate bodies, points out that "the fact that form headings recur throughout the history of catalog codes suggests that they fulfill a valid need and that we need to define their use in a consistent and therefore predictable manner."8 After tracing the use, definition, and functions of corporate authorship, she notes that AACR2 does not offer a definition but rather presents criteria for determining corporate responsibility. While she observes that "this new criterion of corporate responsibility is simpler and more logical than many of the older and sometimes odd conceptions of corporate authorship," she adds that "these older definitions of corporate authorship occasionally permitted certain types of access to library materials which differ from those suggested by our formal statements of the function of the catalog," and suggests that further investigations are needed.9 Gredley brings out some of the problems that arise in the application of chapter 21 of AACR2,10 and Ford complains that chapter 22 is inadequate in its provision regarding persons who write under several names.11

At least two specialist groups remain dissatisfied with the provisions of AACR2: catalogers of rare books and microforms are actively promoting changes in the rules. The Rare Books and Manuscripts Section of the Association of College and Research Libraries (ACRL) was transmitting to the Committee on Cataloging: Description and Access a list of relator terms to be used in the cataloging of rare books and special collections, with the request that it be added in AACR2 21.0D (concerning the optional addition of a designation of function to the added entry heading for a person).12

Bibliographic control of microforms has been of concern for some time; a recent publication by Jackson, adapted from a speech made in 1978, indicates how rapidly the situation is changing.13 Dodson considers the problems involved in providing access to microform collections, the cataloging provided by publishers, and activities recently under way; and Yale University Library has published the guidelines used at that institution for the selection, acquisition, and bibliographic control of microforms, their handling and storage, and library relations with microform publishers and reprinters.14

Boss, summarizing the results of an investigation funded by the Association of Research Libraries (ARL) and carried out by Information Systems Consultants, Inc., states that the lack of use made of monographs in microform is due to the lack of bibliographic access to them.15 In an earlier progress report on the same project, some of the key elements of a
national plan for bibliographic control of microforms were identified as adoption of a plan by the Library of Congress (LC) to provide fixed fields in the MARC format for the physical description of microforms; a review of AACR2 rules regarding microforms; entry of microform records in the databases of bibliographic utilities; and retrospective cataloging of major microform collections.17 

Although some voices were still loud in objection to the new code—Berry urged postponement of its adoption as “the only prudent course,” Ayres wrote that five years should elapse before the code was introduced, and Martin concluded that “we should not tolerate future upheavals which are costly in resources”—most authors took a more sanguine view.18 Strand urged professionals to take a positive attitude toward the situation,19 and Savage, while not so enthusiastic, reported that adoption of the code was “now more widely viewed as both inevitable and desirable.”20 While Bryant warns that “the prospect of AACR3 was clearly visible three years before the implementation date for AACR2,”21 Gredley concludes that the new code marks an important step toward international standardization in cataloging,22 and Curwen hails it as a “remarkable and truly international achievement.”23

Training Programs

In the United States, the major attempt to acquaint practitioners with the new code and with the practices to be followed by LC in applying it consisted of a series of thirteen institutes, designed by LC for the Resources and Technical Services Division and its Council of Regional Groups, to be held throughout the country between May of 1980 and June of 1981. While the meetings are intended primarily for catalogers, “they will also benefit technical services administrators, network staff, and public service librarians who are familiar with AACR1 and have a general knowledge of AACR2.”24 A similar series of activities was to be held in the United Kingdom, with most of the meetings designed as one-day workshops for cataloging personnel.25 Specialized groups were also active: the Music Library Association held a preconference workshop on the new code in February; the American Association of Law Libraries sponsored a longer but similar program in June, as well as a pair of one-day workshops attempting to explain to law library administrators the costs of the new code; and public service personnel furthered their education in AACR2 with a program at the New York Conference of the American Library Association (ALA).26 LC continued its presentation of AACR2 rule interpretations, options, lists of revised headings, and informational comment in the Cataloging Service Bulletin.27 (Gale has now reprinted the 125 bulletins of the former Cataloging Service in a two-volume set with a subject index added.28)

Training Aids

While Maxwell’s text was already proving itself useful to students of the new code, a number of other tools appeared.29 Hoffmann’s Getting Ready for AACR2, aimed at the cataloger preparing to adopt the rules, contains
numerous examples comparing AACR1 and AACR2 records, as well as brief discussions on choice of entry, name forms, aids for catalogers, and suggestions on how to keep up with the changes. Hunter and Fox have issued 383 Examples Illustrating AACR2, about half of the examples from their similar work illustrating AACR1 were retained for the new book, for the benefit of catalogers who wish to compare records produced under the two codes. Seminar on AACR2 offers numerous short introductions and explanations of aspects of the code as presented at a British workshop. Two standard cataloging texts newly revised to take account of the code are those of Manheimer and Wynar.

A more limited approach is found in the new edition of Slocum's Sample Cataloguing Forms, which illustrates Part I of the new code (description). On the other hand, Using AACR2, by Shaw and others, is concerned only with the application of Part II. This latter work illustrates the rules by means of diagrams and flowcharts: "the starting point...is the algorithm: a process of problem solving. The technique here provides a quickly comprehended introduction to the task of author cataloguing in general and to the application of Part II...in particular." At least in this country, students in library schools may be more comfortable with decision diagrams than are many professional catalogers. For those willing to experience it, however, the diagrammatic technique can offer a clear solution to many a clouded problem.

From a group involved in preparing training workshops for the state of Minnesota come a number of manuals containing cataloging examples for both general and special materials, monographs and serials, texts and audiovisuals.

Two new works deal specifically with the cataloging of audiovisual materials under AACR2. Fleischer and Goodman present in Cataloguing Audiovisual Materials a manual for the use of practicing catalogers and library school students who have had general training in AACR2. All the examples show both first- and second-level descriptions, and a third-level description is shown also in some cases; explanations of the solutions and references to specific rules are included. Olson's Cataloging of Audiovisual Materials offers detailed instructions, illustrations, and comment, and also shows the OCLC worksheet for each example.

**IMPLEMENTATION AND IMPACT**

In the offices of technical services supervisors and library directors there was still much concern about the effect of the new rules on bibliographic control and access in the individual library. A major project to gain information in this area, commissioned by ARL, was completed during the year by King Research, Inc., and published as Alternatives for Future Library Catalogs: A Cost Model. The model reported was an attempt to compare the cost of twelve alternative future forms of the catalog, as well as a particular attempt to determine the costs of implementing AACR2. The total list of cost elements included the number and growth rate of titles and headings added to the catalog; costs of cataloging, editing, and authority control; added costs related to AACR2 implementation; costs specific to card, microform, or online catalogs, and to retrospective con-
version; costs of training and orientation; cost of catalog use by noncat-
alog staff; and cost adjustments.

Not surprisingly, the report indicates that "the largest cost component
for all alternatives is the cost of cataloging and editing. This cost . . . is
approximately 70 percent of the total cost for card catalogs and 55 percent
of the total cost of on-line catalogs. The next largest cost is that associated
with producing and maintaining the catalog. . . . This cost ranges from
14 percent (for the split catalog) to 27 percent (for the unified on-line
catalog) of the total cost."40 Other costs were less: 3 to 12 percent for
retrospective conversion, 5 to 9 percent for use by noncatalog staff, 4 to 7
percent for added costs due to AACR2, and 1 percent or less for training
and orientation. As one indication of the wide variety of figures reported,
the research team found that the cost of cataloging a single title ranged
from a low of $4 in one library to a high of $22 in another.

In the end, "different library sizes, different costing philosophies, and
different interpretations of cost parameters" made it necessary to set up a
hypothetical library situation in order to get "a clearer impression of how
the cost of one alternative compares with that of another."41 While it
proved impossible for the research team to draw conclusions as to the
most economical form for the catalog, it did appear that the cost of
implementing AACR2 would be less than 10 percent of the cost of de-
veloping and maintaining the catalog in a given library.

Despite the problems of the King Research study in dealing with so
many different and individual situations, the model itself was thought to
be a useful management tool that could serve as a prototype for other
operational cost models. The cost model used is described in the publica-
tion and all the equations are included.

Proceedings of the 1978 and 1979 institutes of the Library and In-
formation Technology Association (LITA) were published during 1980
as Closing the Catalog, with practical and theoretical considerations on
the consequences of closing the catalog, alternatives to closing, and studies of
actual situations.42 ACRL reported on a survey in which 40 of 106 libraries
responding said that they would not close the catalog with the adoption of
AACR2. Fourteen libraries definitely planned to close; only 15 had tried
to estimate the cost involved in closing or maintaining the catalog.43
Asher, in a summary of the options available to those libraries not chos-
ing an automated catalog, concludes that "AACR2 and the card catalog
can live together—and cheaply," but cautions that "there is no one best
method of reconciling AACR1 and AACR2 heading conflicts."44 Morris
and Brautigam also offer an overview of the reasons for closing the card
catalog and the alternatives available;45 their outlook is a positive one, as is
that of Wellsch, who accepts the integrated catalog and provides a flow-
chart for interfiling new headings into the old file.46

Kline and Taylor examined a sample of the current cataloging at Emory
University library and described its procedures for handling heading
changes.47 Their results indicated that 15 percent of the headings added
to Emory's catalog would need revision with the use of AACR2. Pang
investigated the impact of the new rules on a smaller institution (210,000
volumes) and estimated the personnel time needed for changes.48
Thompson reported on studies carried out at the College of Wooster (Ohio) and at Indiana State Library, and others were described in the final issues of *Alternative Catalog Newsletter*, which ceased publication at the end of the year.\(^{49}\) The University of Texas, Austin, published the reports of two staff committees, one concerned with the integration of AACR2 headings into the existing catalog, the other dealing with matters of staff training and orientation to the new code.\(^ {50}\) Nine studies of the impact of AACR2 on library catalogs are included in ARL’s SPEC Kit 68; seven of these are from individual research libraries.\(^ {51}\)

Some research of more general intent also appeared during the year. The Library Research Round Table (LRRT) sponsored two programs during the ALA Annual Conference in New York—“Catalog Files for the ’80s” on June 29 and “Research and the Catalog” on July 1. At the first of these meetings, Dowell reported on “A Five Year Projection of the Rules for Form of Heading in AACR2,” based on her doctoral research, and suggested that integrated files are preferable to closing the catalog; her study of selected academic library catalogs indicated that the cost of the integrated catalog would not be extreme, and that the percentage of conflicting headings would be low.\(^ {52}\) After five years, Dowell predicted, the percentage of split files in the integrated catalog would be only six-tenths of one percent. The second LRRT program featured six speakers, and included an analysis by Potter of the AACR2 impact studies carried out since August of 1978.\(^ {53}\)

Byrum and Ricard, in a survey aimed at compiling information on the way in which libraries had actually responded to AACR1, found that except for the major compromise of superimposition, libraries had generally followed its provisions.\(^ {54}\)

In an investigation carried out at two academic libraries, Potter attempted to determine whether Lotka’s law—relating to the number of authors who produce more than one journal article—also applied to the library catalog.\(^ {55}\) Applying his data to AACR2, Potter concluded that 5.7 percent of headings for new titles would have to be changed during the first year, less in later years. His sample indicated that only about one-third of the personal authors represented in the catalog appear more than once, and collocation may be less of a problem than has been anticipated.

A deliberately restricted study reported by Krikelas investigated the approach made by users seeking a particular known item in a large catalog.\(^ {56}\) Results indicate that in a situation where author and title are known, most users will look under author; a user’s choice of search methods will be affected by the level of complexity that person sees in the file to be searched; and, as the known author/title information becomes less specific or less distinctive, the catalog user tends to make up a title or subject to use as an access point. A critical summary and evaluation of the methodology and scope of catalog use studies is presented by Markey, with a summary of the findings and a bibliography of catalog use studies.\(^ {57}\)

Whatever other libraries may conclude from their various studies, the University of Illinois has taken the decisive step of adopting the new code and opening a new catalog; the old catalog, according to the report, had become “unmanageable.”\(^ {58}\) Illinois plans to go to an online catalog in the
future, and the library administration saw no point in increasing the number of old records that would have to be converted (Illinois catalogs about ten thousand items per month).

**CATALOG FORMAT**

Although many libraries may share Illinois' intention of moving to an online catalog when it becomes possible, Thompson has rightly pointed out that the format does not yet exist; in fact, he is concerned that the library world has so far failed to address itself to "(1) the definition of an on-line catalog, or (2) its feasibility, or (3) its desirability, or . . . (4) its effects on cataloging standardization." Anderson offers points which should be considered in making decisions about the future of the catalog in small libraries; Norie expresses a fear that the value of the card catalog and the service it furnishes to readers may be seriously lessened by lowered quality standards as the library waits for the new technology; and Remington has called for the establishment of an RTSD committee to study the functions and uses of library catalogs.

Accepting the idea that libraries will be moving to catalog formats other than the card file, Stevens suggests that we think in terms of different catalogs for different needs; he proposes three such tools—one for the librarians, one for general users, and one for specialized users. "New catalogs," he urges, "must build upon both the strengths and weaknesses of the past and must take into account what we know and what we can conjecture about user needs and behavior." A change in the amount of information presented in the catalog was investigated by Hall and Seal, who introduced a short-entry catalog to users of a library that normally offered a fairly full entry.

Fasana, however, objects to the various projects which use a short record as introducing "the idea of a second-class record into the data base," and reminds us of the distinction between an online file and an online catalog. Malinconico, in a revision and updating of a paper first presented in 1978, is concerned that due to the rapid development of the technology, "we can all too easily find ourselves in the awkward position of attempting to solve yesterday's problems with a technology that scarcely recognizes their existence", and Leonard points out that "a card catalog stored and accessed via a computer is still a limited information retrieval tool."

The catalog on microfiche is a form still receiving attention. Whitehead and Frost think that duplication of the catalog on microfiche is the best solution now available for supplying branch libraries and for sharing information about resources, and offer detailed specifications intended to apply to a catalog of 650,000 cards. Quinlan, describing the computer-produced microfiche (COM) catalog of an Ontario public library, presents tables which briefly and clearly summarize the advantages, disadvantages, and costs of various types of microform catalogs as compared with book catalogs. Dwyer has been concerned with user reaction to the COM catalog, but concludes that there is still not enough reliable information on which to base a decision; his article includes a useful list of further readings on the subject. The trend continues, however, and a school
district near St. Louis claims to have the first COM catalog in a secondary school."

Excellent coverage of the options currently available in choosing a commercial COM or online system is available in Boss and Marcum's study for *Library Technology Reports*, which reviews the literature and reports information gathered from librarian users as well as from system vendors. Boss and Marcum limited their study to turnkey systems as being the most attractive for most libraries, in that vendors can offer lower cost than in-house development, a firm price and delivery date, known performance and system features, and continuous software improvement. The authors found no turnkey online system that could be delivered within the normal three-month period, and their chapters on the online catalog emphasize preparations for future rather than characteristics of currently available systems. A useful planning guide for the library without specialist assistance (or for the librarian who needs some background before confronting or evaluating the assistance of a specialist) is Matthews' *Choosing an Automated Library System.*

One of the many once esoteric areas that become of importance in considering a machine-based catalog is that of non-Western language materials. *Cataloging and Classification of Non-Western Materials* deals chiefly with the problems of records for library materials in languages commonly collected by Western libraries. A number of the contributors consider questions of entry of names and of the romanization of bibliographic information, both matters discussed in other publications also during the year.

Wellisch suggests as a solution for the romanization problem the establishment of a separate database for each of the principal nonroman scripts, and Agenbroad points out the fundamental question that "we must decide whether we want only to see characters or if we also want to use characters to seek or sort records or both." The Research Libraries Group (RLG), working with LC, expects to develop by 1983 "the computer capability to enter, manage, store, transmit, and output new bibliographic records containing East Asian scripts in MARC compatible format, cataloged according to LC/AACR2 standards." After two surveys of the American library community, LC has decided to continue using the Wade-Giles system of romanizing bibliographic information for Chinese-language materials; adoption of AACR2 and then changing to pinyin would have made problems of cataloging and filing records for these materials even more difficult. With specific regard to traditional Bengali Muslim names, Saif-ul-Islam offers comments and recommendations for handling each of the broad categories.

Retrospective conversion or "recon"—putting the library's existing bibliographic records into machine-readable form—is a necessary factor in preparing for a machine-based alternative to the card catalog, whether that alternative is seen as COM or an online catalog. ARL's Office of Management Studies prepared a new SPEC Kit during the year to serve as guidance for libraries planning such computerized files, whether for catalog access, circulation control, or some other purpose. The package contains documents from ten contributors, four of them networks or utilities and the other six representing libraries or library systems. A
paper by Boss, prepared as background for the King Research Study and published as one of its appendixes, is also included. Conversion of more than five million non-MARC records in the LC catalog is under way in a project called REMARC; Carrollton Press will produce the database, which is scheduled for completion in 1985.82

Choice of an automated alternative to the manual catalog involves problems of physical access to the files. A study made at Northwestern University used queuing theory to estimate the number of public terminals needed for an online catalog or microform readers needed for a COM catalog.83 OCLC, with a National Science Foundation grant of $97,902, will develop and test an algorithm for estimating the number of public terminals needed by a library using an online catalog.84 Data on such factors as catalog use, reference activity, circulation, and building occupancy will be gathered at Ohio State University.

Printing terminals are widely used in connection with cataloging operations—to produce worksheets, to copy bibliographic information, to produce labels, etc.—and a survey by Becker contains a basic description of printer technology, limitations as well as capabilities of the various types, and a suggestion of factors and features to be considered before buying.85 Tyner offers guidelines for those planning to purchase printing terminals,86 and Crawford has published a helpful checklist for assistance in choosing terminals for use with the online systems.87

Two manuals for use in filing the new catalogs—the ALA Filing Rules88 and the Library of Congress Filing Rules89—appeared during the year. Both are intended to apply to automated files or to manual files, and both are considerably abbreviated from previous versions; the ALA manual, for example, contains only ten rules, is far shorter than even the earlier abridged edition, and can easily be used as an on-the-job reference.

Whether the library maintains its catalog on cards, in microfiche, or online, Schmierer rightly points out that authority control is inevitable if that catalog is to fill its "two basic functions of finding and gathering."90 McCallum adds that the authority system not only assists in standardizing variant records but actually may be used to permit a certain amount of variation; although an authority record usually contains only one accepted form, it can identify and relate several forms.91

Early in the year, LC distributed for comment a draft version of the National Level Authority Record, defining the contents of name authority records that would be included in a national cooperative database.92 At the same time, LC was contracting with private firms to add to the MARC database the authority records for those names which appeared between three and twenty-four times in the database; conversion was expected to proceed at the rate of about two thousand records per week.93 Princeton, California, and the Texas State Library were among those that sent representatives to LC to be trained in connection with cooperative name authority programs in which records created by those libraries are included in LC's automated name authority file.94

**BIBLIOGRAPHIC UTILITIES**

Many librarians think of the automated catalog as one which is supported by a bibliographic utility through its online database. Publications
of the past year have shown an increasing tendency to look upon the utilities as components of a national bibliographic network; ARL libraries, for example, endorsed a report prepared by ARL's Task Force on National Library Network Development which among its principles included statements on the quality and scope of bibliographic data, urging a comprehensive database with detailed records based on national standards; communication linkages among the bibliographic utilities permitting access to comprehensive nationwide databases; and the right of libraries to participate in, or contract for services from, more than one bibliographic utility.  

Some movement in the direction of a national library network did take place. Battelle Memorial Institute, supported by a grant from the Council on Library Resources (CLR), issued its Technical Report on Linking the Bibliographic Utilities, an examination of the benefits of linking for cataloging, interlibrary loan, and reference searching, and a consideration of the technical requirements of linking and alternative methods. During the study, a sample of 849 current monographic titles was searched once a week for eight weeks on each of four utilities—OCLC, RLIN, WLN, and LC-MUMS—until a record was found or the study ended. For each of the utilities, data were recorded on the number of full LC-MARC, CIP, or member-contributed records found each week, as well as a history of when each title was first found and changes in its situation over the period of the study. The Battelle study found that searching in the combined databases resulted in the finding of records for 96 percent of the titles, or about 10 percent more than could be located in any one of the non-OCLC databases (hit rates were 93 percent on OCLC, 87 percent on RLIN and WLN, 86 percent on LC-MUMS). The study recommended that the simulation model which was used "should be used by the utilities . . . to expand the analyses . . . and to explore issues that were not addressed," and that work should begin promptly on a linking of the computers of the four utilities. In a separately issued discussion of the Battelle report, Jones attempts "to establish the context in which the study was carried out, to summarize its major points, to note certain constraints on the Battelle effort, and to suggest what the next steps might be." He notes indications that it does not pay to wait more than four to six weeks for copy for current English-language materials to appear in the database.

Savage has offered a sketch of the present situation in networking, as well as of the problems and possibilities with regard to the achieving of a national library bibliographic network. Matthews presents an edited version of an earlier comparison of the four major utilities, and Rush has published comments from ALA Midwinter urging a cleanup of the MARC formats to eliminate duplication in both machine and human effort, standardization for consistency in format, and a formal procedure for receiving and reviewing proposed changes in the formats.

Two studies offer background information for use in network planning: Vondran has analyzed the variations found in records filed into the post-1955 National Union Catalog; and Seal reports on a British study that provides information on the unit costs of cataloging and attempts to indicate the market for the products of a national cataloging service.
With further regard to the market for cataloging, Anderson reports that
processing centers make up a disproportionately large segment of the
large users of at least one bibliographic utility.\textsuperscript{103}

In a speech at Columbia University, however, Avram expressed con-
cern that the increase in centers providing local or regional services would
prevent the development of a national network.\textsuperscript{104} Two of the largest
OCLC centers, SOLINET and NELINET, appear to be starting new
careers as regional automated service centers; the branch system of the
New York Public Library has decided to build its own utility, which could
be extended throughout the area and state; and a study made by Ringgold
Management Systems has recommended that the British Columbia Union
Catalogue turn itself into a provincial bibliographic utility.\textsuperscript{105} On the
positive side, however, representatives of OCLC, RLG, and WLN met
during the year “to discuss mutual cooperation”; OCLC and RLG jointly
received a CLR grant of $16,300 to finance a study of “online patron
access to bibliographic data bases”; and RLG and WLN will undertake a
two-year study on the linking of authority control systems with the aid of a
CLR grant of $318,317.\textsuperscript{106}

Still, each of the major utilities was pursuing its own way, often with one
step in the direction of cooperation and the next toward self-
aggrandizement. The OCLC Board of Trustees voted in February “not to
restrict or limit third-party use of its records, provided such use benefits
participating libraries, networks, and OCLC,” closing an argument which
had raged over much of the previous year.\textsuperscript{107} The utility also gained
customers both north and south of the border (Alberta’s Alcoholism and
Drug Abuse Commission and Mexico City’s Universidad Iberoamerica-
nia), discussed the marketing of OCLC services in the United Kingdom,
and opened a Western Service Center in San Francisco.\textsuperscript{108}

Good introductions to the use of OCLC are always welcome, since
changes are constantly taking place in the system. During the past year
Manheimer published \textit{OCLC: An Introduction to Searching and Input}\textsuperscript{109} and
Davis and Abrera the more limited \textit{Monographic Searching on the OCLC
Terminal}.\textsuperscript{110} Maruskin offered a new work on the “governance, function,
financing, and technology” of the network, which unfortunately includes
only one bibliographic reference as late as 1979.\textsuperscript{111} Plotnik has published a
brief and popular introduction for the nonspecialist.\textsuperscript{112}

In a report on a 1977 survey of academic libraries having 300,000
volumes or more and participating in OCLC, Braden, Hall, and Britton
suggest that variations in cataloging standards keep the network from
realizing its full potential.\textsuperscript{113} They note also that membership in the
network has caused changes in library practices, including changes in the
traditional roles of professional and nonprofessional staff at various
levels.

A study conducted at Virginia Polytechnic Institute and State Uni-
versity by Metz and Espley found that some cataloging copy was available on
the OCLC database for 87.1 percent of the materials within a period of
four months; full LC copy was available 59.3 percent of the time.\textsuperscript{114} Copy
was generally found for American imprints and for firm-order items,
suggesting that original cataloging should be done for these materials if
copy is not found on receipt. Libraries other than LC provided 22 percent of the best catalog records available for monographs. If CIP data are accepted, about 50 percent of all American monographs can be cleared on the first search. For the rest, and for other materials, the first month after receipt is the most productive period for cataloging copy.

Two studies concern OCLC's relation to special libraries. Sweeney proposes the use of "clustering" by such libraries, to permit the efficient and economical use of terminals; and Beasley suggests that when a library finds little copy available for its material, the collection is probably unique and participation in the network even more important. Tenopir and Johnson report on difficulties with the receipt of OCLC cards and point out that while the use of new technology has increased the speed of cataloging and processing, bibliographic access through the card catalog has not kept pace.

In a column lauding OCLC as "a national network in which libraries of all kinds and all sizes are cooperating effectively," Gorman suggested that pressures on the large research libraries to join RLIN took both financial and human resources away from the more comprehensive utilities and urged that commitment "to the wider interests of librarianship... is absolutely incompatible with membership in an exclusionary group." A number of respondents rose to the defense of RLIN, and in a separate article Malinconico contends that only the inputting library uses a large part of the OCLC database; most of the country's libraries, he argues, do not need a comprehensive national network anyway. Commenting on the relationship between OCLC and RLIN, Martin concludes that "within two years, the problem will return to proportion."

RLIN, described by Plotnik as the "utility in cap and gown," received a grant of $300,000 from the Hewlett Foundation which will be used to finance terminal purchases, profiling, and staff training for new members of the network. RLIN's sophisticated search capabilities and the availability of an online catalog appeal to Norten and Hirst, who found it to be "the system which would best serve the present and future needs of the University of Iowa Law library."

The University of Toronto Library Automation System (UTLAS) acquired its first customer in the United States during the year; UTLAS and WLN were also subjects for Plotnik in brief updates.

A glossary prepared by Matthews in 1979 was reprinted during the year "as an aid toward deciphering most of the current literature and conference discussion of library automation." A similar republication was given to the glossary prepared by Malcolm and Promisel which had originally appeared as an LC Network Planning Paper in 1978.

**Change and Challenge**

The extensive and intensive investigations of the past year into the continuing and complicated problems of bibliographic access and control have implications for library schools as well as for technical services personnel and administrators. In a survey of catalog department heads in those universities with an ALA-accredited graduate library school, Ryans found the prevailing view to be that theory was indeed important in the
teaching of cataloging, but it should be well mixed with the practical side. In a companion article, Ryans reports that the responses of cataloging teachers in the same library schools indicate a feeling that emphasis should be on the practical side rather than on the theoretical.  

Looking to the future, Oyler believes that the curriculum for the technical services librarian-to-be should not only offer the traditional components of cataloging and classification but should also include such subjects as automation, systems analysis, and problem solving. She finds, however, that "the greatest challenge to the library schools in educating technical services librarians of the 1980s will be in the area of management," for in her opinion the librarian entering a technical services department should "have the . . . personnel, budgetary, and interpersonal skills of the young executive entering a manufacturing or accounting department."  

Horny, too, identifies "two major components of technical services librarianship: the application of specialized knowledge . . . and the exercise of a managerial role"; she adds further that "many of the technology based changes which we can anticipate will require professional attention in technical services areas of responsibility." In a spirit of optimism shared by many others at the beginning of the new decade, she concludes that "the future will not stand still any more than the 'present,' but technical services librarians are in the best position to make the most of the future's challenges." Although the publications of the past year indicate no unanimity of feeling that AACR2 offers the best or only solutions to the universal problems of bibliographic control and access, they do show a substantial agreement on the importance of those immense, complex, and increasingly pervasive questions.

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Year's Work in Subject Analysis: 1980

Hans H. Wellisch

Theory and General Works

Most of the contributions to the literature exploring the theoretical foundations of subject analysis and indexing published in 1980 came from non-American authors. Fugmann, in the first of a series of eight papers to be continued in 1981 and beyond, surveys the entire spectrum of subject indexing and the construction of indexing languages as well as their use in retrieval. This promises to be an interesting and thorough exploration from the pen of the German information scientist who is well known from his earlier contributions in German and in English. In a key paper read at the Thirty-ninth Congress of the International Federation for Documentation (FID), Neelameghan considers the interrelationships between classification and indexing from the point of view of mission-oriented systems, emphasizing the role of classification in conceptualizing a “field” as a whole. Hoffmann’s attempts to come to grips with the definition of the elusive concept of “information” is the latest in a long string of such quasi-philosophical attempts to define the undefinable. Since he is a chemist turned documentalist, he derives his operational definition from the field of chemistry and demonstrates it by an analysis of an abstract taken at random from Chemical Abstracts. Although he proudly states in his summary “I think we have found what we are looking for,” what he has found really applies to the natural sciences only, and even there probably with some reservations. Wellisch investigates the cybernetic aspects of bibliographic control in both its descriptive and exploitative (subject-oriented) function; he shows that complete control, while achievable (at least in theory) for the descriptive function, can never be fully attained. This is so not because the ideal indexing language or retrieval system has not yet been invented but because such an ideal is beyond the powers of any system, no matter how large or sophisticated.

During the late 1970s it was increasingly realized that rather than mere computer manipulation of words with little or no regard to linguistic factors, it is the science of linguistics whose contributions will be crucial for a thorough understanding of indexing languages, their construction and use in retrieval. This trend continues to be explored: Long surveys the

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relationships between linguistics and indexing in general, while Bivins specifically examines the importance of case grammar for the design of modern indexing languages, and poses the question whether the thought processes of human beings are at all related to the syntactic structures so far built into our indexing and retrieval languages. Reball calls for indexing languages that are more closely patterned after natural languages, which, in his view, may facilitate automatic translation of index terms from different languages despite the apparent difficulties of vagueness and redundancy—a conclusion not shared by this reviewer. Fugmann, Denk and Nickelsen, in another of their serial contributions, examine the syntax of indexing languages and how it affects their use in interactive systems. They claim that those indexing languages which are most highly syntactical are precisely those least suited for a man-machine dialog, though part of the syntactic devices must be preserved also in less structured indexing languages, aided by mechanically generated composite vocabulary terms. On a more general level, Vasarhelyi presents INTERCONCEPT, a new project sponsored by Unesco and intended to become a program for verbal control of common concepts beyond language barriers, especially in the social sciences whose terminology is notoriously vague and idiosyncratic. This seems to be the latest version of the elusive idea pursued by Bishop Wilkins and his friends in 18th century England and France—a universal “philosophical” language independent of any natural language and aimed at international learned discourse. Just how much terminological confusion exists in the social sciences is shown by Meyriat in a comparative analysis of more than sixty (!) indexing languages specifically dealing with that field in general or with any of forty-one subfields. He, too, makes some suggestions for a future general indexing language for the social sciences, which might be able to overcome the terminological as well as the corresponding indexing chaos bedeviling social science information.

Compatibility of indexing languages is of growing importance not only in the social sciences but even more in science and technology. Russian researchers seem to be particularly concerned about this issue, as is evident from the Soviet literature, and some of their problems are discussed by Vilenskaya for the benefit of English readers. The other side of the medal is treated by Martin, who ran a pilot project intended to show that one single retrieval language can be constructed to extract information indexed by several different databases, each of which uses a different indexing language. Exactly the same problem was tackled (though by a different method) by a team from Battelle who investigated it for the National Science Foundation; their Vocabulary Switching System seems to be promising but is not yet cost-effective and needs further testing in real-life situations.

A concise summary of recall and precision devices employed in various indexing languages, especially those of interactive systems, is presented by Raitt, and the related issue of relevance indicators and their selection is discussed by Mansur. Regazzi reviews the various evaluation techniques developed over the past twenty years or so and comes to the conclusion that the various models and the parameters used by them are not so
much contradictory as complementary; he thinks that both the relevance-theoretic and utility-theoretic models should be further developed in order to provide us with better insights on how well (or badly) our indexing and retrieval systems work. Kaske and Sanders evaluate the effectiveness of subject access from the point of view of the library patron and with special regard to online searches. Among other things, the study revealed that librarians prefer controlled indexing languages, whereas users, not unexpectedly, prefer natural or even “street” language (whatever that is). OCLC intends to make use of this study as a basis for its future subject access system.

**Classification Schemes**

Classification in general is considered by two well-known theorists. Foskett reviews the schemes of Dewey and Ranganathan in the light of systems theory and the theory of integrative levels which, together with influences from the fields of psychology and linguistics, have contributed to the work of the British Classification Research Group, now in its third decade of continued research into the fundamentals of ordering systems. Dahlberg summarizes new trends in classification theory and practice, which in her view may lead to a symbiosis of classification and verbal subject indication, as well as in a renewed interest in the theory of classification.

The publication of a new universal classification scheme in 1978/79, the Broad System of Ordering (BSO), was a major achievement, sponsored by FID and Unesco. Coates, one of its creators, presents the development and main features of the system, which is also critically reviewed by Travis.

As to the long-established classification schemes, Dewey 19 is now covered by Wynar’s well-known textbook, whose thorough revision is otherwise devoted to AACR2, while the part dealing with subject analysis remained essentially without change. Custer, the scheme’s able editor for twenty-four years, reviews the history of the last four editions, dwelling on the “cosmopolitization” and modernization of Dewey as well as on its limitations. Reviewers of Dewey tend to dwell mainly on that latter aspect, although Miksa stresses the scheme’s enhanced utility for international use and suggests that automation may now take care of even massive changes more easily, at least in classified catalogs, which, though almost extinct in the U.S., are still flourishing in the U.K. Miksa wonders whether Dewey is still viable as a shelf classification, and if so, whether some radical changes may not be indicated in the overall structure. Berman criticizes the scheme harshly, demanding total reform of the revision process, no more relocations, and no more phoenix schedules, which “create havoc” (p.585). He gives a long (but by no means exhaustive) laundry list of “new” topics which have no numbers and no index entries, though books have been written about them over the past quarter century. Several contributions come from the U.K., where Dewey is apparently more alive and well than in its homeland. The treatment of Philosophy and Religion is examined by Duckett. Jelinek speculates about a “20th Dewey” as it might be: first, a regular Dewey 20, updated,
revised, expanded, and with one or two phoenixes (Berman, take note!); second, an "Alternative Dewey," consisting of the present nineteenth edition plus alternative schedules for fields in need of thorough revision, to be used if and when a library feels the need and has the means to do so; third, a "Basic Dewey," a kind of abridged Abridged Edition, supplemented by KWIC indexing for more detailed subject access.28 Donbroski goes one step further and envisages a "Life without Dewey": some libraries may prefer that to ever-lengthening shelf numbers, which may give high intellectual satisfaction to number builders but are increasingly meaningless and unusable as a physical ordering device.29 Dufton and Talbot report on the computerized production of Dewey subject indexes for a union catalog as a complement to catalogs based on the (British) MARC tapes.30 Yet another British contribution to the scheme itself is a proposed revision of the schedules for 780 Music, a vast improvement and radical departure from the present schedule; it may be included in Dewey 20.31 An expansion of 302-307 Sociology was nearly completed during the year and will be applied by the Decimal Classification Division of the Library of Congress in 1981.

The Universal Decimal Classification (UDC), the offspring of Dewey, managed and supervised by FID, is dealt with by several authors. Sydler reports on the automation of the system at the Swiss Federal Institute of Technology in Zurich,32 while Scibor considers the relationship between UDC and thesauri which can perform together what each separately cannot do;33 Delgado reports work done in Spain on the use of UDC for the standardization of terms in a Spanish thesaurus.34 De Rigt summarizes the five-year plan adopted for the future development of the UDC.35 A U.S. Information Center for the UDC was established at the College of Library and Information Services of the University of Maryland; it holds a comprehensive collection of UDC schedules in English and in several other languages, and maintains close contact with FID headquarters in order to assist North American users in the application of the scheme, and to keep them abreast of new developments, revisions, and additions.36 Chan's new edition of Immroth's guide to the Library of Congress (LC) Classification makes a valiant effort to explain the inexplicable; it has many new examples, and the first four chapters have been rewritten.37 Some much-needed tables, found only in a few published LC schedules, but used throughout the system, are now reproduced in an appendix. LC itself published a refurbished subdivision of class H, namely HM-HX Sociology, from which many legal topics have now been removed to class K;38 an unrevised cumulation of H-HJ will appear in 1981. A cumulated (but not revised) fourth edition of class R Medicine was also published;39 why this country still needs two classifications for medical books, both basically of the same enumerative structure (namely, LC's class R and the National Library of Medicine's class W) defies rational analysis, but it probably adds zest to the task of classifying medical subjects. Class Z, our own beloved field, has, according to LC, "changed little in essence in the last eighty years" (p.[iii]); therefore, this is a "cumulative" edition (so misspelled twice in the introduction!).40 'nuff said. The index to this
marvelous exercise in wax-museum-like conservation of library science as it was in the good old days of 1900 is said to be “new”; one can find there “Green peach aphids” (i.e., bibliographies on, of which there is probably not more than one in all of LC but which sports its own number), yet “Bibliography” as a subject is not indexed (though it is, of course, still at Z 1001-1121). Not yet published but already used by LC since October 1980 are the schedules for German law, KK. Since it has taken LC more than seventy years to design schedules for the laws of even a few of the major countries outside of the U.S., and the completion of class K can thus be expected sometime in the twenty-second century, there is a need for “temporary” classification of materials on foreign law, American libraries being “in [a] somewhat awkward position” (p.129), according to Reynolds and Thorson, who describe their own remedies.\(^4\) It has apparently not yet come to their attention that a fully developed (though, of course, unofficial) K schedule, designed by Moys, has been in existence since 1968.\(^5\) The inadequacy of both Dewey and LC for the field of Psychology is pointed out by Soudek but will probably have as little impact as similar critical examinations of other subjects which have been published over the past two decades, and which had the effect of throwing water on a goose.\(^6\)

The Soviet classification scheme used in public and academic libraries of the USSR and most of its satellites is presented for English readers by Zhurzhalina.\(^7\) This brings us to the subject analysis of not only Russian but also many other materials written in scripts other than the Roman, the topic of a book edited by Aman, which, however, devotes relatively little space to classification and indexing as compared with the more complex issues arising in the descriptive cataloging of such works.\(^8\) Most contributors deplore the inadequacy of Dewey, LC and various other subject heading lists for the indexing of African and Asian materials, and some also give details of local adaptations of these schemes. The contributions themselves are haphazardly arranged, apparently in the order in which they were sent to the editor, which is not exactly a hallmark of classification excellence; the index of the book is an abomination.

Specialized classification schemes are treated by Dahlberg, who considers the use of the BSO for the creation of a social sciences thesaurus,\(^9\) and by Sandison, who presents the features of the Science Reference Library classification, to a large extent developed by himself and his staff on Wyndham Hulme’s principles;\(^10\) it is doubtful whether any other library would find this scheme useful. Rettig describes a scheme for local government documents,\(^11\) and practical advice on the making of personal classifications and indexes, mainly based on the keyword approach, is offered by Cooney.\(^12\)

**Subject Headings and Thesauri**

The publication of the ninth edition of the *Library of Congress Subject Headings (LCSH)* must certainly rank as the non-event of the year.\(^13\) The two fat volumes are nothing but a reprint of the eighth edition plus all changes up to 1978, minus certain lists of subdivisions. Here, too, everything is still as it always was, perpetuating the inanities and absurdities that have accumulated since 1910 (or rather 1897, when work on *LCSH*
began), and adding a few new ones, e.g., on the relative distance of islands from the nearest landmass (which is the decisive factor in naming them in either direct or indirect form). The editors tell us that “the next edition will . . . facilitate massive and complex change of subject headings.”51 The mind boggles. Most people would think that LCSH had already reached the peak of massiveness and complexity, but more of the same is apparently in store sometime in the late 1980s. Gorman thinks that the answer to the problem lies in machine searching of keywords, and says that one would have to spend three times as much on religiously making all changes according to LCSH than on making all changes of AACR2 headings in old catalogs, yet everybody complains about the latter but not about the former; he also points out that LCSH is based neither on principles nor on standards but is predicated on the belief that “a subject once named is as a butterfly pinned to the board of time” (p.558).52 Still, people try to make the best of LCSH. Milstead deals with natural versus inverted word order (rejecting most of the latter),53 and Preston tells us how to cope with changes in LCSH by means of automation.54 While Schadlich considers the implications of a change from Sears to LCSH, and their compatibility (or lack thereof),55 Mischo presents a computer-assisted method for augmenting LCSH by title strings in OCLC records.56 Finally, LCSH is compared with PRECIS regarding consistence and equivalence by Bonnici, who finds, not unexpectedly, that “LC is a mess” (p.9).57

Specialized subject headings for mathematics, derived from the language of the field, are compared with those of LCSH and PRECIS by Gödert, a comparison that is probably not quite fair to either of these two systems, which are necessarily oriented towards the general rather than the specialized user.58

The coordinated development of thesauri in the sci-tech field is discussed by the Soviet writers Dovbenko and Uman’ski (in English); they are probably motivated by the growing proliferation of specialized thesauri in the Soviet Union.59 More specifically, Wall deals with the problem of overlapping hierarchies in thesauri as distinguished from other “related terms” and suggests a possible solution by means of a model drawn from the subject of transportation, but urging the construction of other models, drawn also from the social sciences.60 On a more pragmatic level, Kazlauskas and Holt show how to use a microcomputer for thesaurus construction.61 Finding a new application for thesauri, Gavryck explains how to use the ERIC thesaurus as a teaching tool for concept identification.62 On the making of thesauri (of which, like that of books, there is no end) no less an authority than Cleverdon has some harsh words to say: “None of this work has shown any indication of significant improvement such as justify the cost involved in their operational implementation” (p.128).63

The problem of subject access for linguistic and ethnic minorities in public libraries is treated by Wellisch; he conducted a worldwide survey on the topic which revealed that minorities are woefully short changed by all but a few libraries, and he suggests several methods designed to cope with the problem.64 A work that should be considered in this context by
those who try to accommodate lingual minorities by subject headings in their language is Koh's monograph, which, though published in 1978, surfaced in the U.S. only in 1980. The two languages compared are English and Korean, but the findings should be applicable also to other, more closely related, pairs of languages.

INDEXING

Though it is not customary to include a review in a review, Jackson's examination of several books on indexing and a major scientific index deserves special mention; a diagram shows how the topic of indexing has been treated quantitatively in the published literature over the past decades, and the number of pages devoted to certain key topics in four recent textbooks on indexing are compared. Lancaster, while also looking briefly at the past of indexing, devotes himself mainly to its future in the coming two decades; he foresees a trend away from controlled vocabularies (including classification) and towards free-text searching and "post-controlled" vocabularies, most of this being implemented by paperless communication (his own contribution meanwhile still being printed on paper).

Several indexing systems are presented by their inventors as well as by their practitioners: Farradane summarizes more than two decades' work on his Relational Indexing and (with Thompson) on its testing by a diagnostic computer program; his pupils Seymour and Yates-Mercer report on a pilot project application of the system. Craven presents various spin-offs from his NEPHIS indexing system, one of which is a government publication index; he also shows how the visual display of an index (whether printed or on a CRT screen) can be generated by a microcomputer which constructs a network of concepts and the links between them, the latter acting as the nodes. While it is not certain that the scheme as tested in a small-scale environment would also work well for a large database, it seems to be a valid approach, especially for indexes which, though rather complex, may pertain only to a relatively limited subject field. Falk and Baser report on SPIndex, a computer-assisted system used for the production of annual indexes to Historical Abstracts as well as for various other indexes in the humanities and social sciences, derived from the basic index.

The typographical layout of indexes and their preparation for the printer is well presented by Butcher, while a specific and controversial topic pertaining to the visual display of an index is treated by Wellisch, who questions the validity of the rule to disregard prepositions in index subentries; he considers this rule to be counterproductive and antiquated, being based on mere assumptions about index users' habits; moreover, such rules are not part of any of the national indexing standards. Also on the topic of printed index usability, Wright and Threlfall report their research on readers' expectations, and how format and layout of an index affect its usefulness. Bennion tested the indexes of two major encyclopedias, requiring readers to search for material whose identity but not location was known; the testing methodology needs, however, still to be refined before reliable results can be achieved.
The indexing of specific projects and materials is described by several authors. The difficulties encountered when indexing an autobiographical work of the dimensions and complexity of Pepys' diary are all too briefly discussed by the Lathams, and indexers concerned with this type of work will eagerly look forward to the publication of the index volume to the definitive edition of Pepys. Lytle reports on the indexing of an American archive of urban affairs, comparing provenance and content indexing, while Arad deals with the Israel State Archives, where human indexing combined with a basically simple yet sophisticated automatic recording system has shown itself to be highly effective. Milstead looks into the specific problems of indexing current events in a newspaper index; online access to full text of articles is an aid to the indexer. The possibilities of providing access to otherwise unindexed material now made available in microform (including visual material), and the problems related to the special indexing techniques employed, are discussed by Chadwyck-Healey. Also on visual media, but more specifically on their treatment in periodicals, is the paper by Thorpe, who describes an international cooperative effort to index material in several languages for the *International Index to Film/Television Periodicals*.

Anderson considers the structuring of index entries for a computer-produced database, the *Modern Language Association International Bibliography*, and shows how a high degree of flexibility can be built into the index structure, taking into consideration the search procedures and information gathering habits of practitioners in the humanities, which are quite different from those in the natural sciences towards which most automated information retrieval systems are oriented and on whose specific needs they are predicated.

To mention contributions to that area, Mosby and Kier present a new method for indexing chemical reactions by generating a unique number for identification purposes, similar to CAS Registry Numbers for chemical substances. Murdock proposes a system for the indexing of numerical data, a field that has been sorely neglected so far, although efforts to index geological data began in the late 1960s. Business information is indexed by several databases, and an attempt to create a combined index is reported by Kollin and Kuranz. Spalding shows how a computer-produced serials catalog in book form can also display indexes to corporate bodies and subjects, derived from the centrally generated serials data.

Several articles deal with indexes and indexing in specific countries and areas: Garrow surveyed the situation in Australia by means of a questionnaire and lists some Australian indexes; the indexing of children’s books in that country is critically assessed by Miller, while Henry covers the entire area of the Pacific, with special emphasis on Hawaiian indexes.

Two slide-tape shows have been developed by the Malanchuks with the aim of teaching students the proper use of indexes; one show explains the H. W. Wilson indexes, the other covers the ERIC reference tools.

Citation indexes in their modern form have now been with us for almost two decades, and Garfield, their indefatigable, witty and wise promoter, has summarized their development in a book which is largely based on his
prolific writings in *Current Contents* and elsewhere, but contains also new material; the “humanities” mentioned in the title are however barely touched upon.\(^{91}\)

Indexing and abstracting never having had their own comprehensive bibliography, Wellisch has now compiled one, covering books, articles and theses from the 1850s to 1976; there are almost twenty-four hundred entries in twenty-five languages, almost all accompanied by abstracts, and arranged in chronological order under each topic.\(^ {92}\) The “vital statistics” of indexing that can be gleaned from this bibliography are analyzed by its author in a follow-up paper.\(^ {93}\)

**AUTOMATIC CLASSIFICATION AND INDEXING**

A good overview of the field (as it was in 1978) is provided by Noel, who stresses in particular the importance of linguistics,\(^ {94}\) while Sparck Jones considers both the limitations and possible future applications in online systems.\(^ {95}\) Both authors stress that no truly automatic indexing system exists as yet. Hamill and Zamora describe an experimental computerized system for the automatic classification of papers into one of the eighty sections and five major parts of *Chemical Abstracts*, using heuristic techniques for the recognition and proper classification of words that occur in titles.\(^ {96}\) Unlike the superficial KWIC indexing method, this is not aimed at subject analysis but only at a relatively rough grouping of documents whose titles are almost always indicative of their class affinity; it is thus quite likely that the system will be highly effective within its self-imposed limits. Maeda, Momouchi and Sawamura describe a method used to extract automatically significant phrases from Japanese text.\(^ {97}\) Willett\(^ {98}\) and Harding and Willett\(^ {99}\) report on experiments in document clustering to achieve automatic classification, and Dillon and Caplan consider automatic term clustering for the generation of thesauri, sadly reporting that thesauri compiled by human beings, though far from perfect, are still superior in most respects to the automatically generated variety.\(^ {100}\) Gerstenkorn performed automatic indexing with the aid of nominal phrases, a method that, in his view, obviates the need for complete syntactical analysis at input, though the system cannot be used for retrieval.\(^ {101}\) Burress compares machine-aided indexing by means of a highly controlled vocabulary with the KWOC method; in a small test sample, based on a fairly homogeneous subject field (defense management) where titles of papers express the subject quite precisely, no significant differences in retrieval effectiveness were found, a result that should surprise no one.\(^ {102}\) Salton considers the automatic construction of a thesaurus by “pseudo-classification,” that is, using terms and forming classes of terms based on relevance judgments by users.\(^ {103}\)

All these quasi-operational “automatic” projects share a characteristic that might be compared with reports on the manufacture of mechanical birds: after a quarter century of trial and error, some models begin to look bird-like, a few can imitate chirping noises, some can flap their wings, but so far none can really fly or sing—a fact carefully hidden behind some dense verbiage, generally in the last but one paragraph of such reports.
ABSTRACTING

A useful guide to the collection of abstracts and indexes available at the National Bureau of Standards has been compiled by Cunningham and should be of value for special libraries in the sci-tech field. Smalley compared the coverage of Psychological Abstracts and Index Medicus for "operant conditioning," a topic in psychology; she found that despite much overlap, use of both tools is necessary for exhaustive coverage. McMullin, in another comparative study, evaluates the treatment of bibliography in seven abstracting or indexing services; only one of them, the Annual Bibliography of the History of the Printed Book and Libraries, is solely devoted to the subject, and only the annual index to the journal Library indexes by bibliographical technique.

HISTORY

The history of indexing and abstracting attracted several writers. Rodriguez gives an account of the Cuban librarian F. de P. Coronado’s "Rational Classification System" developed in the 1930s but never much used even in the library for which it was designed. Poole examines the International Classification designed by Fremont Rider in 1961, which shared the same fate, leaving people to speculate on its author’s possible motives and aims. In contradistinction to these stillborn ventures, Baker, Horiszny and Metanomski review the history of one of the oldest and most successful abstracting services, Chemical Abstracts—a fascinating story which surely needs a whole book rather than a brief article. In a more specialized field, Douville outlines the abstracting services for aluminum in their chronological development and describes the major tools.

Finally, a historical piece of humor in indexing (a neglected topic to which the late G. N. Knight devoted a whole chapter in his Indexing, the Art of) was brought to light by Drazan, who traces the somewhat intricate debate in The Nation of 1883 on whether convicts should be set to the task of indexing books. That this was a hoax seems not to have dawned on the irate correspondents who reacted to the pseudonymous letter by "Anonibum Pertinax" in which he recommended indexing as "a kind of labor . . . peculiarly suited to the reformatory idea." And on this cheerful note, my fellow convicts and galley slaves, you who are sweating and toiling to classify and index what busy writers have put on paper (pace Lancaster), let us part for this year!

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The Year's Work in Serials: 1980

Dorothy J. Glasby

From a single vantage point it is difficult to determine what is going on in the library world with regard to serials in any given year or in any given place. However, by combining information gained from the serials literature of 1980 with that known by personal observation, it has been possible to identify at least some of the concerns of serials librarians and obtain hints of events and projects that may be of interest to them.

Acquisition

There is no other way to characterize the cost of serials in 1980 than to say that prices were up and climbing. In the annual Library Journal survey of subscription prices for American periodicals, Brown and Phillips reported that the increase was a near record.\(^1\) Their study of 3,358 titles showed that the average price was $34.54, a 13.7 percent increase over the $30.37 average of 1979; only in 1970 and 1973 was the percentage of increase greater. As usual, the most expensive serials tended to show the greatest increase in price.

Serial services (periodicals that revise, cumulate, abstract, or index information in a specific field) increased in price by 13.5 percent, going from an average of $171.06 in 1979 to $194.21 in 1980. The percentage of increase was exceeded only by that of 1970.

The relatively modest 5.8 percent increase in prices paid for all serials by British libraries, reported in the annual figures released by Blackwell's Periodicals Division, was attributed to the strength of the pound sterling.\(^2\) However, the average price of British serial publications rose by 22.2 percent, offsetting the decrease shown by publications from the United States, Canada, and other countries.

As always, journals in physics and chemistry were the most costly, but a study by Clasquin and Cohen showed that publications in biochemistry and molecular biology were not far, if at all, behind.\(^3\) Interestingly enough, they reported that by applying citation analysis they were able to determine that 15 percent of the most highly cited journals in those fields accounted for almost 50 percent of the subscription costs of all the journals on the list they used. They concluded that savings from resource sharing in those fields and in scientific subjects generally would probably be minimal as individual libraries would require their own subscriptions, especially to the most costly items, to satisfy the needs of their users.

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Clasquin and Cohen further suggested that because of the high cost of scientific journals, which are the major means for the transfer of research results, a "knowledge void is imminent." ⁴

Recognizing that the "cost of serials is one of the major issues facing librarianship," as Boss noted, the American Library Association devoted a special meeting to the topic at its Annual Conference in New York in June 1980.⁵ The program, jointly sponsored by the University Libraries Section of the Association of College and Research Libraries and three units of the Resources and Technical Services Division (RTSD), dealt chiefly with ways in which libraries might try to cope with rising costs. As one might expect, some of the suggestions involved subscription cutting or resource sharing by means of interlibrary loan agreements but, surprisingly, it was also pointed out that librarians often make unnecessary expenditures by attempting to fill gaps in their runs of particular serials. Missing issues and volumes are often costly because the items are out of print, but most librarians would be unable to demonstrate that their library has a real need for particular noncurrent issues. Such issues or volumes are usually ordered because we, as serials librarians, have become accustomed to thinking of the "complete" set as the ideal to be achieved. Program speakers hinted also that the days of the printed journal may be numbered as costs of publication, one factor in subscription costs, are becoming impossibly high. They suggested that the electronic means of transmission and communication now available may make printed serials, if not obsolete, at least less important as a means for the exchange of scientific research. Needless to say, such direct methods of information exchange may be expected to alter drastically the traditional role of the library as a dispenser of information in the form of answers to factual questions or as a supplier of books, journal issues, pamphlets, etc.

Librarians today must still be concerned with what users want, and a study done by Robertson in three special libraries indicated that in ranking items to which library resources might be allocated, users put journal purchases first in almost all cases, following that, however, with computerized literature searching.⁶ The librarians of the institutions were covered independently in the same survey and they, too, gave highest priority to the purchase of journals. Hentschke and Kehoe suggest that libraries might get more for their subscription dollar in purchasing periodicals on a three-year rather than one-year subscription basis.⁷ In addition to the savings realized in the two-thirds reduction of paper and other work involved with subscription renewal, there are often special discounts to be obtained by placing the longer subscriptions. Of course, this method requires special budgeting arrangements and often gives a library less flexibility with regard to cancellations in a time of particular crisis.

In 1980 there were fewer articles on the amount of use given serials in libraries. Hodowanec, however, did analyze the variables that help to predict the use of monographs and periodicals and determined that periodicals tend to be consulted more frequently than monographs.⁸ He points out that although he studied twenty variables, there is a much greater variability in predicting periodical use, and further research is needed. Kochtanek suggests that in specialized libraries journal indexing
may provide clues for predicting periodical use.\textsuperscript{9} The periodical indexes identify the journals that tend to have articles dealing with the subject matter of particular interest to the clientele of the library. Those journals should be the ones acquired and maintained by the library. Although this method is a reasonable and useful way to make a quantity judgment, it does not make allowance for the occasional article of very high quality that appears in a journal not usually publishing that type of material. He warns that judgments made according to quantity must always be supplemented by quality judgments made subjectively by librarians, researchers, and other library users.

White and Fry, summarizing findings reached in a study funded by the National Science Foundation several years ago, concluded that libraries do not generally place new subscription orders for scholarly or research journals on the basis of any particular study of expected use, nor do the libraries, as a rule, consider whether the journal might be easily available elsewhere.\textsuperscript{10} In most cases a library subscription is placed as the direct result of a specific request from staff or users of the library. Subscriptions are usually canceled because of budget limitations and librarians, not users, seem to have the greatest input in making such cancellation decisions. One of the purposes of the study was to consider whether membership in networks or consortia was influencing libraries in regard to their placement of new or cancellation of old subscriptions. White and Fry concluded that the memberships were beginning to have some slight effect as libraries could look to their network or consortium for protection against the risk of making the wrong cancellation decision. They concluded that most subscription decisions were still made without consideration of such outside factors.

**PROCESSING AND CONTROL**

Libraries applying AACR2 to serials in 1980 (the University of Illinois was known to be one) were not putting their experiences into print, so the literature on the subject consists mainly of perceptions of problems to be anticipated. Of particular interest to those who deal with serials and understand that serials are “different” is Spalding’s opinion that AACR2 eliminates corporate authorship as an operating principle in cataloging chiefly to avoid having a special rule of entry for serials.\textsuperscript{11} He contends that the extreme restriction placed in AACR2 on items that may be entered under the name of a corporate body seems to put most serials appropriately under title. However, those same restrictions condemn (his word) large numbers of monographs to the same fate, and he suggests that title entry for these is both awkward and undesirable. Richmond found the most unsatisfactory parts of AACR2 to be those relating to music, law, and serials.\textsuperscript{12} She thought that not enough allowance had been made in the code for dealing with the constant change that can be anticipated in all elements of serial descriptions.

The Committee to Study Serials Cataloging of RTSD’s Serials Section continued to produce cataloging copy for selected serial titles to identify difficulties in the application of AACR2.\textsuperscript{13} At least a few of the problems they encountered would seem to bear out Richmond’s opinions that
guidelines for dealing with elements of description that change from issue to issue are either lacking or inadequate.

Much of the time of serials catalogers in 1980 was devoted to studying AACR2 and to attendance at workshops and institutes where they could receive training in applying the new rules. Although AACR2 does not have special rules of entry for serials, and chapter 12, which deals with the description of serials, is designed to be used with chapter 1 for the description of all kinds of materials, serials librarians felt that general instructional workshops did not provide them with the specific information they needed as well as with the in-depth discussion of serial entries that would enable them to assess the impact on their libraries. For example, concern was expressed at a special workshop held in Texas about the choice and form of entry for serials as prescribed in AACR2 and the effect that such choice and form would have on serials check-in files, on union lists, and on library patrons.14

Serials check-in files under AACR2 were in fact becoming a matter of some interest to the library community in 1980. Somehow during the lengthy discussions about the adoption of AACR2 and the closing (or nonclosing) of card catalogs, the question of the check-in file (at least the manual check-in file) had frequently failed to surface. Hirshon, Gleim and Dowell, even at a rather late point in the year, were asking hard questions about how such files would be handled.15 They wondered whether existing files should be changed to AACR2 choice and form of entry, and whether check-in files and associated catalog records must be identical, at least in regard to entry.

Earlier in the year the Library of Congress, presumably owner of the largest serials check-in file in the country if not the world (an estimated seven hundred fifty thousand entries), reported that it was considering several approaches: (1) redo existing entries to AAC2 form as the entries come up for attention; (2) enter new AACR2 cataloging into the file by title and refile all existing entries by title; (3) begin a new file by title, the new file to include all serials added after 1980 plus serials in the automated system that would be moved from the old, frozen check-in file.16 It should be noted that in all three instances LC would be departing from the position it held in common with many other libraries that entry on the check-in files and on the catalog record should be the same. By year's end LC had decided that option one was undesirable. Although two was rated as highly desirable, it appeared to be impossible for economic and also for logistic reasons since the whole file would need to be torn apart and out of service for a considerable period of time. Option three placed too great a burden on users of the file since it would be impossible either for those checking materials into the file or those consulting the file to predict in which array of entries a given record might be found. The decision finally reached during the last months of the year was that new entries cataloged under AACR2 would be put into the existing file under title (or uniform title) with the single exception that U.S. federal or state documents would be filed with the name of the jurisdiction preceding the title, thus gathering them into specific groups for ease in checking. As time permitted, existing entries could be changed and progress made toward an arrange-
ment throughout by title, which was considered to be the most desirable file arrangement.

Some time ago Iowa State University resequenced its check-in Kardex by title as it was believed that access by title was easier.\textsuperscript{17} Although no particular problems were encountered, it should be noted that it was necessary to qualify, or otherwise make distinctive, duplicate or unclear titles and that Iowa did have a serials book catalog, the indexes to which could be used to find entries in the check-in file that did not otherwise come quickly to hand.

Interest was high in automated check-in systems as evidenced by the close to two hundred fifty librarians who attended a Library and Information Technology Association (LITA) institute on “Serials Automation: Acquisition and Inventory Control” in Milwaukee in September.\textsuperscript{18} Available systems were discussed and demonstrated and the characteristics of the ideal online serials control system were identified. Although it might have been possible to assume that those in the audience were already “believers,” speakers at the conference provided much information, some related to cost and multiple access, about the advantages of the online automated system versus the traditional and more common manual system. It was clear from the conference that individual institutions no longer need to build their own serials control systems from the ground up but can choose instead to participate in more or less complete systems developed by a utility, by a subscription agency, or by other libraries. In some instances it is possible for them to purchase a turnkey system and thus save on developmental costs, although they may sometimes have to compromise in terms of their own identified and exact requirements. The advent of the subscription agency into the serials control field is a relatively recent development and would seem a natural outgrowth of automating their own files of subscription and other data. Both EBSCO\textsuperscript{19} and Faxon\textsuperscript{20} are in the developmental stages with their systems but suggest that they should be available, at least to a few libraries, during 1981.

Four new members joined the CONSER (CONversion of SERials) Project in 1980: the University of Texas, Austin, the University of Michigan, the University of Washington, the University of California, Los Angeles, and the Government Printing Office (GPO). Since GPO specializes in U.S. federal documents (and indeed catalogs nothing else) the participants thought that in the future it might be desirable to make GPO a center of responsibility for federal document serials. With the addition of new members and a change of utility by some existing members, the question of CONSER participation by institutions that are Research Libraries Network (RLIN) rather than OCLC members or users became of some concern. From its inception CONSER has used the facilities of OCLC, and the CONSER database has always been defined as a subset of the serials database on OCLC. To keep the CONSER database complete and intact, a number of options, ranging from double input by some institutions to actual linkage between OCLC and RLIN, were proposed, but by year’s end the question had not been resolved.

The CONSER participants accepted a proposal by LC and the National
Library of Canada that the normal CONSER record under AACR2 would be prepared using an augmented level-one description. Use of the augmented level one would mean that all elements of description prescribed for level two would be included with the exception of other title information (chiefly subtitles) and statements of responsibility beyond the first. The participants also agreed that all their new cataloging done on or after January 2, 1981, would follow AACR2 but that input of cataloging done earlier would be permitted as long as name headings involved were given in AACR2 forms.

For the first time, the Library of Congress made available on tape the entire CONSER database as it stood in December 1979. The tape included all records, those authenticated by LC and the National Library of Canada, those not yet authenticated, and those marked as duplicates but not yet removed. The 259,054 records did not carry most local data fields or any institutional location symbols but were otherwise complete. LC was continuing to explore the possibility of assuming responsibility for a regular distribution of unauthenticated records to complement the distribution of authenticated records it has made for many years in its MARC serials distribution service.

CONSER events, news, and procedures are frequently unavailable to other than CONSER participants. Therefore, it was interesting to note an article by Walbridge (of OCLC) that describes in some detail the CONSER authentication process and the relationship among CONSER participants, centers of responsibility, and OCLC.

Roughton, in connection with the preparation of a computer-produced serials catalog for Iowa State University, made a study of errors, omissions, and dependability of serial records (including CONSER records) found on OCLC. He anticipated that records with the following basic fields could be used with more certainty because all, except the ISSN, should apply to all titles: (1) LC call number; (2) LC subject heading; (3) imprint; (4) collation; (5) ISSN; and (6) dates of publication and volume designations. He was surprised to discover that 68 percent of the records lacked one or more of the six fields. In addition he found that one-fourth of the 612 records he examined contained at least one data element he considered erroneous. It can be argued that some of the “errors” he counted (e.g., open entries for dead publications) result from a lack of information rather than from error. However, his conclusion that real cooperative cataloging is not taking place in a situation in which most participants are unable to correct or update records is certainly provocative.

A revision of the Guidelines for ISDS (used in assigning ISSN and key title to serials) did not appear in 1980 but, according to reports of meetings of directors of ISDS centers held in September 1979 and October 1980, work on it is proceeding. Although a North American proposal to drop the concept of generic title in favor of a single rule covering all identical titles was not accepted, an order of preference for qualifying identical titles was agreed upon and it is hoped that this order will result in key titles that are the same or not much different from the uniform titles (title proper plus qualifier) to be used for serials under AACR2. In line with the
idea, shared by many serials librarians, that the ISSN is most useful when it is actually printed on serial publications, staff from the National Serials Data Program (NSDP) at the Library of Congress began discussions with GPO about procedures for including ISSN on federal documents. It was determined that by the time GPO is aware of a federal serial publication, one or more issues have already been printed. Therefore, NSDP will in the months to come attempt to contact federal agencies that produce or are likely to produce serials to explain why it would be desirable for them to print the ISSN on their serials.

It is perhaps appropriate to leave the subject of serials processing and control with a suggestion by Gorman that the scholarly journal and the specialized serial should not be published in the present manner at all but that articles should be indexed or abstracted. Each subscriber could then select what he wished to have—receiving a tailor-made journal, perhaps in microform. Gorman is of the opinion that this might help to relieve the present situation in which “the most harried members of the library profession are serial librarians” and the “long-term future of the library resources of the nation are being sacrificed to the short-term exigencies of serial control, and to the lunacies of serial publishing.”

**RESOURCE SHARING**

Interest in union-listing activities continued to be high in 1980 and automation seemed to be the only way to go. Late in the year the Library of Congress announced to subscribers to *New Serial Titles* that, beginning sometime in the first quarter of 1981, issues would be produced via the CONSER project and its MARC records, thus ending almost thirty years of a completely manual operation. Although symbols of holding libraries would be input to OCLC, the work would not be done by way of OCLC’s union-listing capability (not yet available at this writing) but would be carried in a special field in each bibliographic record. Through modifications of its existing program for the photocomposition of cards for serial entries (which became operational in January 1980), LC would produce full records in a cardlike format for the publication. Because of the relative ease of production, the scope of *New Serial Titles* is to be expanded to include all serials, not just those that started publication or changed title after January 1950.

A report on the activities of the project in progress among the libraries of the University of California, Berkeley, Stanford University, and the University of California, Los Angeles indicates that they are well on their way toward the conversion and upgrading of serial records to create a union list. Although two utilities (RLIN and OCLC) are being used, it is assumed that acceptance of existing national standards will pave the way for an eventual merging of records. Concerning standards, the long awaited ANSI standard for holdings at the summary level was published in 1980. Work continues on a similar standard for holdings at the detailed level. In other “union listing” news, in January 1980 the RTSD Serials Section established an ad hoc committee to publish guidelines and procedures to be used in producing union lists of serials and charged the committee to complete its work on the publication by December 1981.
Resource sharing provided one answer to the problem of the high cost of serials, as reported by Dodson in an article describing the Interuniversity Council of North Texas Cooperative Journal Program. Despite Collver’s recent analysis of serials work in libraries and her

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The Management of Technical Services—1980

Margaret A. Rohdy

“Demonstrated successful supervisory experience.”
“Effective organizational, training, and interpersonal skills.”
“Organize and supervise the work of a progressive department of professionals, paraprofessionals, and part-time students.”
“Responsibilities include planning, organizing, implementing, and coordinating cataloging operations.”
“Participation in overall library planning, budget preparation, and the formulation of library policies.”

Almost without exception, technical services job notices, above entry-level, include phrases such as these, taken from recent issues of the Chronicle of Higher Education and American Libraries. In addition to knowing cataloging, serials work, and acquisitions, most technical services librarians must be supervisors, managers, or both.

THE CONTEXT OF TECHNICAL SERVICES MANAGEMENT

Many technical services librarians are middle managers or first-line supervisors, who may have begun their careers without administrative responsibilities, then moved into management positions for which they qualified on the basis of expertise in some aspect of technical services. In libraries, management skills are traditionally acquired on the job, not by training specifically for a management position. Making a successful transition from librarian to library manager is the first test faced by the technical services librarian who has moved to department head from a staff position.

Situated between the library administration and the staff, the middle manager is most likely to be concerned with developing his or her skills in interpersonal relations, motivation, and communication—the day-to-day aspects of getting technical services work done. Because technical services is often the library’s largest or most complex department in terms of

Because many technical services librarians today need management skills as well as expertise in some aspect of technical services, the editor invited Margaret Rohdy, as a special feature for the silver anniversary issues, to prepare this companion piece for the 1980 annual reviews. Margaret Rohdy is head, Technical Services, Owen D. Young Library, Saint Lawrence University, Canton, New York.
numbers and types of personnel, matters such as hiring, training, and performance appraisal are a major concern of the department head.

The everyday tasks of technical services management take place against a background of change in libraries and in society. Automation of cataloging and other library processes, usually in a network environment, has affected every job in technical services, with promise of even greater changes as online catalogs become a reality. The automation of manual systems requires high-level skills in planning and the ability to work effectively in groups composed of both public and technical services staff. The technical services librarian must serve as interpreter of the complexities of bibliographic control to groups and individuals inside and outside the library.

Changes in attitudes toward work and changes in the labor force have an effect on library organizations. For example, greater numbers of working women and men must balance home responsibilities with those of the workplace, so they prefer flexible work schedules. Other changes in women's roles, such as more women in management positions, bring issues of applied feminism into the workplace on a daily basis.

It is in the setting described above that one finds what some refer to as the "new technical services librarian." What is new is that technical services is not the back-office, isolated function it once was. In fact, technical services is the center of attention in many libraries. A growing interest in management science is one response of technical services librarians to the challenges of automation and changes in the workplace.

Technical services librarians may seek to improve their management skills in a variety of ways: by individual reading and study; by taking courses in colleges, library schools, or business schools; or by choosing from the growing number of management workshops sponsored by local or national library organizations. This review will highlight the most visible and some of the most worthwhile publications and events of the last year. Many readers will notice an emphasis on the academic library setting, reflecting both this writer's expertise and the emphasis in library literature as a whole.

THE LIBRARY APPROACH

Publications on the management of technical services can be divided into two groups. First are articles and books dealing with some aspect of the topic strictly from the library point of view, reporting on a particular issue, project, or system, citing library literature but not making reference to the literature of management theory. Second are publications which look at library problems from the point of view of a particular management technique or theory.

As it has been for the last five years, OCLC continues to be the subject of a large portion of the writing and discussion of technical services. Scott discusses general management issues related to OCLC at Kent State University. He describes the development of OCLC online cataloging and its gradual transformation into an all-library system, used in public as well as technical services. In introducing automation, he advocates a gradual reorganization, an approach that is understandable, given that
Kent State was one of the first OCLC libraries, having little information upon which to base decisions.

The articles by Gapen and by Braden, Hall, and Britton represent the type of information not available when Kent State began using OCLC. Gapen presents her experience with OCLC as “a springboard for other libraries’ analyses of their technical services operations,” listing policy decisions made prior to implementation and describing the increased use of paraprofessional and clerical staff for OCLC cataloging. Factors affecting productivity in online bibliographic searching and cataloging are discussed in detail, as is the use of statistics in monitoring OCLC’s impact on library operations. Gapen ends with a plea for creative problem solving based on detailed knowledge of cataloging operations.

Braden, Hall, and Britton report on a 1977 survey of cataloging practices in 121 OCLC member libraries. They found that in a majority of the libraries, support staff handle both Library of Congress and member cataloging copy. The trend is to distinguish degrees of complexity in cataloging, assigning only the more difficult cataloging to librarians, and accepting OCLC member records without full verification in at least some cases. Larger libraries (more than 900,000 volumes) tended to make greater use of paraprofessional staff for relatively high-level cataloging tasks. This article is typical of many on management issues in technical services, designed to answer the questions “How do other libraries handle this?” and “Where do we stand in comparison?” It can be useful to know that other libraries do one thing or another, but such surveys usually do not document why or even how certain procedures or policies have developed in individual libraries. Knowing what other libraries do is often useful in stimulating thinking and problem solving, but use of this type of information to justify management decisions is risky in situations that call for leadership, creativity, and solutions tailored for the problems of one particular library.

To help librarians obtain information from other libraries, the Systems and Procedures Exchange Center of the Association of Research Libraries gathers documents such as reports, manuals, and forms from member libraries; surveys practices and procedures; and assembles the results in SPEC Kits, each one devoted to a specific topic. In 1980, SPEC Kits relating to technical services management dealt with AACR2 implementation, preservation plans, and retrospective conversion. Kits from past years remain useful; some have been updated since their first appearance. A list is available from the center.

Several of the articles reviewed here discuss the role of the paraprofessional in technical services and the growing number of automation-related tasks assigned to support staff. Mugnier addresses the problem of distinguishing jobs assigned to library technicians from those assigned to first-level librarians. She clarifies problems such as the potential for abuse in underfilling professional positions with support staff and the converse, using librarians for jobs that can be done by support staff. Though the book is oriented toward public services in public libraries, there is useful general discussion of paraprofessionals as increasingly important members of the library staff.
In library management literature, the "how-to" article is an important genre. Barbara Gates' "Successful Workshop Planning" is particularly timely and well written.9 As a veteran planner, she offers a step-by-step guide designed to save the rest of us from embarrassment, or possibly even disaster.

The flowchart is one technique that no technical services librarian would admit to being ignorant of, even though most of us are not particularly skilled in its use. Burger's how-to discussion of flowcharts focuses not on the chart itself, but on the process used to develop it. "Charts are two-dimensional representations of three-dimensional tasks."10 The directions to the analyst, the way the worker interviews are carried out, and the verification process all affect the relation of the chart to the actual process (i.e., people working in an organizational setting).

Management of technical services increasingly involves choosing automated systems. The following how-to articles are designed to guide and inform the process of choosing particular technologies. The articles by Crawford and Tyner deal with specific equipment, CRT terminals and printing terminals.11 Librarians dealing with vendors in choosing equipment or drawing up contract specifications can prepare by using these checklists for planning.

The papers of the LITA institute "Automated Acquisitions Systems" are a series of articles dealing with different aspects of automated acquisitions, including locally designed systems, vendor systems, and network systems.12 Planning methods, design considerations, and evaluation of existing systems are discussed, and two case studies—of a university library and a public library online acquisition system—are included.

Boss and Marcum discuss similar issues in relation to COM and online catalogs.13 The COM section is detailed, including a general discussion of reasons to consider a COM catalog and specific discussion of six vendors (features offered, level of activity, types of equipment). The authors emphasize the importance of advance planning for COM, giving a detailed list of questions to guide this process. Because COM catalogs are in use in a number of public and academic libraries, the authors are able to report on patron and staff reaction to them. There is less information available for online catalogs. A list of proposed design elements for the online catalog and a review of the current status of various vendors' plans for turnkey online catalog systems are provided; the authors conclude with a brief discussion of what libraries can do until more is known.

The last article in this section is neither a report article nor a how-to article, but a prophecy. Atkinson, in his discussion of the impact of online catalogs in the library, theorizes that the change from single immovable files such as the public catalog, the shelflist, and the order file to online files accessible in dispersed locations will lead to decentralization of library functions, and to more work in small groups based on academic disciplines or forms of material where the traditional distinction between technical and public services will disappear. "The problem of quality control, of management in its broadest sense, will still be with us."14 Small-group administration will present new problems of evaluation and
personnel work. Once the bibliographic files are online, maintenance will consist not only of maintaining the data, a task that goes on with the card catalog at present, but also with changing and developing the system itself.

Most technical services librarians are familiar with such buzzwords as "participatory management," and "Management by Objectives" (MBO). These concepts are appearing ever more frequently in library literature. The following articles are representative of those in which insights from management are applied to library problems.

McClure points out that participatory management techniques work well only when all participants have equal access to information sources related to management decisions. In a study of decision-making patterns in four academic libraries, McClure found that top administrators tend to rely on a limited number of sources of information, and that most librarians do not take advantage of the information resources within their own organizations. We are all familiar with the problems in communication between technical and public services. Individual librarians who regularly contact more sources of information are likely to be involved in decision making; however, those who are information-rich are not always part of the decision-making process. McClure believes that creativity and constructive change are most likely to occur in a library where the staff has maximum contact with information sources and where flow of information within the organization is maintained at a high level.

MBO has generally been applied at the top or middle-management level. Lewis investigated the use of MBO techniques at the lowest level of a technical services unit. An experiment was devised to determine whether use of MBO could reduce errors and improve job satisfaction in serials check-in and related tasks. The error rate decreased during the time of the study, but it cannot be shown that the reduction was due to introduction of MBO. Results on job satisfaction were even more ambiguous because this experiment took place in one small section of a much larger organization. It was impossible to isolate factors directly related to the MBO experiment from factors such as low salaries and low status operating in the organization as a whole. "This study confirms the more critical literature in suggesting that the relationships among MBO, job satisfaction, and performance are not clear." Specific problems in applying MBO in this library setting were related to the problem of rewarding success in a nonprofit organization and to the fact that workers tended to create unwritten objectives involving interpersonal relations. The most important element of job satisfaction for the workers in this study was having pleasant co-workers; the objectives they listed missed the mark in focusing more on the routine, easily quantifiable aspects of the jobs. A useful feature of the Lewis article is the introductory section detailing the history of MBO, its use in organizations, and criticisms that have been made of the technique.

Benedict and Gherman used Sidney Fine's work in functional job analysis to devise a systems approach to listing and evaluating library tasks and the knowledge, skills, and performance standards associated with each. The resulting documents can be used in doing personnel evalua-
tions, writing job manuals, screening job applicants, and training new personnel. In libraries where the content of specific jobs has evolved from particular competencies of individuals, solutions to particular problems, or responses to outside forces, the benefits of job analysis derive from the fact that "it is a system." In the process of job analysis and setting work standards, communication among staff members is enhanced, and the same information is made available to all.

Performance evaluations are done routinely by technical services librarians; in most cases they are viewed by both manager and employee as thoroughly unpleasant and possibly ineffective. Berkner discusses specific ways in which performance appraisal can be made more worthwhile for both the supervisor and the employee. She begins by listing problems and errors inherent in traditional appraisal systems and in those more recently developed according to principles of MBO, citing studies done at Pennsylvania State University and McGill University libraries and referring primarily to management literature. The author proposes a program of performance evaluation for professional librarians; individual behavior as well as quantifiable goals and results are considered. A series of steps begins with training of supervisors and proceeds to individual goal setting and establishing means of feedback for review and evaluation. Emphasis is on improving communication, developing skills, and seeking information rather than primarily on judging individuals.

When managers are asked to list their most serious problems, time management always turns up high on the list. In a how-to article Leach brings together the most relevant literature on the topic, suggesting how the findings of management research can be applied in the library. Collver applies management theory to the problem of organizing serials work in an academic library. "Various methods of organization adopted by libraries were often based on nonrational factors such as historical accidents, special circumstances, personnel arrangements, or architectural constraints and not on farsighted administrative planning based on a theory that can explain why one form of organization should work better than the other." The concept of interdependent activities in James D. Thompson's *Organizations in Action* provides the rationale for a centralized serials department with responsibility for acquisitions, cataloging, and public service. Instead of a flowchart, a diagram of interdependence is used to show how various activities relate to one another. This type of analysis will appeal to librarians whose objections to management techniques often cite the difficulty in applying them in the complex settings of technical services rather than on the factory assembly line or in the sales department of a corporation. Collver's analysis was library-tested at the State University of New York (SUNY) at Stony Brook. The change in organization was made in order to solve problems of duplicated efforts, inconsistent treatment of serials, errors, and delays, with the long-range goal of preparing for online serials control. There are serials departments in existence organized in exactly this way without taking Thompson's theory into consideration. This article is actually of the "how I run my library good" genre, but with a basis in management principles.
THE MANAGEMENT Approach

In a search for management skills and knowledge to use on the job, many technical services librarians read management literature as well as library literature. This may begin as a felt need, “I should do some reading on personnel,” or “Who is this Drucker that everyone is quoting?”

Management literature is huge and diverse. This writer is not in a position to recommend the best of the writing of 1980. Instead, this section of the review will address general problems in using the literature of management science. Much of it deals with the profit-making organization; so applications to library management may not be immediately evident. The field is obscured, in many articles, by incomprehensible jargon. It is thus with great relief that the footnote-pursuing librarian encounters the writings of Peter F. Drucker, notably his classic work, Management: Tasks, Responsibilities, Practices. It is written in comprehensible English and provides an organized way of thinking about what management does. Drucker begins with business management, but also considers the service institution. Much of the literature of library management goes back to this part of Drucker's work.

Drucker emphasizes the tasks of management, one of which is “making work productive and the worker achieving,” in a setting of changing attitudes toward work. In contrast, Kanter analyzes the “real world” of work in an industrial corporation. Rather than a study of how the corporation is managed, her book is a report on how the organization functions. She calls it the ethnography of a corporation. Her observations of the company she studied are applicable to any hierarchically structured organization. Factors in the society and within the organization give some workers power and make others powerless. Some have opportunity; others are “stuck.” Kanter’s analysis of the effect of this situation on worker behavior (what we often refer to as office politics) illuminates many aspects of library organizations.

The LAMA Newsletter in its regular column “Staff Development” provides current awareness service in management science, with emphasis on the needs and interests of first-line supervisors and middle managers. Each column is an annotated bibliography, listing an average of twelve articles. In the last four issues, a total of forty-seven articles from sixteen different management journals were listed. The five most frequently cited journals were Personnel Journal, Supervisory Management, Management Review, Personnel, and Harvard Business Review. Management Review, Personnel, and Supervisory Management are all published by AMACOM, the publishing division of the American Management Association. Each is primarily a means for managers to keep abreast of new ideas and issues in the field. The emphasis is on practical problems in management; short articles, mostly without references, are written by management consultants, corporate executives, and professors of management. Some are original; others are summaries of articles that first appeared in other publications. Of the three, Management Review is most appealing, both in the topics regularly covered, and in style and presentation. Supervisory
Management, written at approximately high school level, is designed for the first-line supervisors in a factory or office. Practicality is the emphasis in all the articles—there is almost no reference to management theory as such. Personnel takes a broad view of that subject and often includes general articles on the “people” aspects of management. Personnel Journal is a valuable source for all managers, not just those whose chief concern is personnel management. The articles are practical in orientation and include references. Harvard Business Review deals with business and economics as well as management and bills itself as the “magazine of decision makers.” Fully documented articles range from reports of studies to opinion pieces. Technical services librarians will not find as much that is immediately and obviously applicable to their situations in Harvard Business Review as in the other journals; the orientation is toward top management. One excellent feature is the book review section.

LIBRARY ORGANIZATIONS AND MEETINGS

The Library Administration and Management Association is the division of the American Library Association most directly concerned with management theory and practice. Each year brings more from this very active and growing association, in conference programs, publications, and the work of its sections and discussion groups. Of particular note at the 1980 Annual Conference was the program “You’ll Manage: Becoming a Boss,” planned by the LAMA Middle Management Discussion Group and attended by 750 people. The planned small discussion groups were large, but the talk was lively. Participants received a compilation of management wisdom and a bibliography selected by the program speakers and planning committee.

Also at the New York Conference, more than four hundred people gathered for a Sunday morning workshop “Staff Development: Back to Basics.” The high attendance at these and similar programs is indicative of strong and growing interest in management among librarians. The Resources and Technical Services Division, especially at the level of the discussion group, responds to members’ interests in management of technical services. Whimsically referred to as the “Big and Little Heads,” the discussion groups of technical services administrators divide themselves by size and type of library. Similar groups exist for collection development officers, heads of cataloging departments, and serials. At the Annual Conference these groups sponsor programs varying from simple forums for exchange of information among members to panel discussions and guest speakers. Most important, these groups provide a way for individual technical services managers to contact colleagues and share information and ideas.

The Association of Research Libraries, through its Office of Management Studies, carries on a number of projects designed to promote management development and organizational problem solving in academic and research libraries. Programs such as the publication of SPEC Kits (discussed above), the Academic Library Program (library self-study), the Management Review and Analysis Program, Academic Library Development Program, and the Planning Program for Small Academic Libraries deal with improving library organizations. The Man-
Management Skills Institutes, held three times a year, are concerned with developing the skills of individual librarians. This writer attended the institute held in Columbia, Maryland, in November 1980. The thirty-seven participants were predominantly middle managers in academic or research libraries with a minority coming from small college libraries. They were approximately evenly divided between public services and technical services. The three-and-a-half-day institute is based on the assumption that most librarians are not trained in management. The intensive workshop requires active participation; it is an active, discovery approach to learning management skills. The emphasis is not on specific management techniques so much as on concepts of organizational diagnosis, problem definition, interpersonal skills, and group dynamics. Participants, through various tests, games and role playing, and discussion, examine their own values, beliefs, and patterns of behavior, learning to identify their own management style—when it is effective and when it can be ineffective. Library application of management concepts is stressed throughout, as participants are presented with library case studies and situations for role playing and subsequent analysis. The informal conference before, after, and between the meetings was a babble of shoptalk, as participants shared growing insights into their jobs. This writer was not alone in overcoming a sense of isolation from others in similar positions. Though there may be several catalogers in one library, there is only one head of technical services. Having the opportunity to share management concerns with colleagues was an important part of the institute.

**CONCLUSION**

McClure says that librarians are, in general, not good managers because they have not been trained in management. He makes a strong plea for library managers, not librarians, whose leadership is “based on a clearly developed managerial philosophy that utilizes specific managerial techniques as well as the full range of human resources in the organization.” He criticizes ‘‘anti-intellectualism’ regarding library administrators’ use of specific management techniques and systems.” This attachment to common sense as the only worthwhile management technique is a rationalization for the lack of expertise required for management.

The writer that McClure is criticizing is, of course, Richard DeGennaro. In a 1978 article, he says that he has spent a great deal of time studying management theory as McClure recommends, but that it is almost impossible to identify exactly what good it did him or his library. This problem has already been noted here, especially in the reviews of articles by Lewis and Collver, who cite the complexity of library organization as one reason why the benefits of applying a particular management technique or theory may be difficult to identify or to duplicate in another setting.

DeGennaro warns against adopting one management system or another as a comprehensive remedy for library problems; however, he says that “in each system, there are a number of concepts, ideas, tools, and techniques that have validity and can be used to advantage by library managers . . . the real danger with . . . management systems is that they
offer mechanistic formulas for dealing with complex realities and keep us from thinking about and solving our management problems in practical, realistic, and common sense ways."32

At the ARL Management Skills Institute, the last topic of discussion on the last day is “reentry.” By that time, the participants have begun to understand that, though they may be eager to apply what they have learned, the worst that could happen is for them to go back to their libraries as zealous reformers, having seen the light. Instead, they realize that good management skills represent a kind of improved common sense, and that they have acquired, as both DeGennaro and McClure recommend, some useful tools and a way of thinking about library problems that they can develop and improve in both theory and practice.

REFERENCES

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17. Ibid., p.333.


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32. Ibid., p.2482.
An Approach to Collection Analysis

John H. Whaley, Jr.

Collection analysis requires understanding of the needs of users as well as of the content of the collection. College and university library collections should meet the teaching and research requirements of their faculties and students. The author outlines a method for translating the curriculum into usable information for collection analysis.

Library collections exist to serve the needs, present and future, of their constituencies. It follows then that we must examine the requirements of our users to determine how to shape the collections. This article proposes a method to identify those needs, and to measure the collection's capacity to meet them. When gaps are found, the technique can be used to identify appropriate titles.

Collection development, the deliberate policy of shaping collections according to a master plan, appeared as a management technique only within the past ten to fifteen years. The very term itself is not found in Library Literature until the late 1960s; ALA issued the guideline for collection development policy statements in the latter 1970s. Two factors help to explain the rise of collection development to its present importance in our profession: (1) the emergence of subject bibliographers to oversee areas of the collection, and (2) the insistence on "accountability"—that money spent on materials be invested wisely.

Historically, the collections in major university libraries owe their excellence to the efforts of scholars who, in addition to pursuing their research interests, acquired for their libraries the foundations of research collections. With these research materials as the nucleus, university administrations set out to purchase the items needed to support them, by comprehensive acquisition of current titles. This method sufficed as long as the fund of scholarly materials, books, journals, and major sets was of manageable proportions; but soon after World War II the knowledge explosion undermined the system. World book production between 1935

Edited version of a paper presented at the Chief Collection Development Officers of Medium-Sized Research Libraries Discussion Group, at the ALA Annual Conference, July 1, 1980, by John H. Whaley, Jr., formerly social sciences reference bibliographer, Atkins Library, University of North Carolina at Charlotte, and now head of the Reference Department, University of California, Irvine, Library. Manuscript received September 1980; accepted for publication November 1980.
and 1975 leaped from 269,000 to 568,000; in the United States the increase was from 25,000 to 121,000, overwhelming those professors who still maintained an interest in acquiring materials for the library.\footnote{1}

As faculty participation in building collections declined, many libraries appointed subject bibliographers to carry on in their stead. These bibliographers, armed with a subject master's and increasingly a doctorate as well, attempt to identify the materials needed to support the university's teaching and research programs. Although few bibliographers can equal the subject expertise of the professors in a discipline, they are, nevertheless, expected to build appropriate collections. And in many libraries the bibliographer has to service a broad grouping of fields such as humanities, social sciences, or sciences. As a result, the bibliographer's choices are dictated less by subject expertise than by a general understanding of the needs of scholars in the discipline, and the reputation of the publisher or blanket-order bookdealer. These are obviously important considerations but are not overly useful in defining the needs of the library's constituents. As a consequence there have been, and continue to be, "in practice no real standards of selection ... applied to the book collections."\footnote{2} Instead, the bibliographer's selection is more often an art—perhaps an instinctive reaction—than a science based on solid knowledge of needs and the potential of any given title to meet those needs.

At the same time, as book production and the availability of materials have increased, financial exigencies have forced more caution and control in selection. Collection development policy statements attempt to provide guidance in this area. The typical policy statement defines desired levels of intensity for collections in broadly sketched subject areas with a statement on the present content and strength of the holdings. Often the policy is a reflection of current and past practice, not a statement of present and future need. And since "most academic libraries have grown in size not through a planned process of development, but rather through the uncoordinated, part-time efforts of faculty members, dilettante library administrators and overworked librarians," collection policy statements, in practice, provide limited guidance for the bibliographer.\footnote{3}

The policy statement defines for each discipline and program the acceptable collecting levels of materials and an outline of the subject matter. But with this definition of collection practices, the bibliographer is still left with a huge number of titles that fall within the general guidelines. The problem at this point is not one of identifying all acceptable titles but, rather, those considered more useful in the collection than others. Repeated studies have shown that many titles added to the collection never circulate. If circulation statistics accurately reflect use, and thus value to the institution, then selection policies need to be more carefully defined.

This then becomes the bibliographer's purpose: to identify the more useful books rather than those merely acceptable. For this task collection development policies afford little comfort. In addition, librarians need to develop a way to analyze collections and their use so that they can anticipate demand and shape collections accordingly. Various evaluation techniques offer information to assist the bibliographer in building collections.
THREE TYPES OF EVALUATION TECHNIQUES

Methods for evaluating library collections fall into three broad categories: checking lists, compiling statistics on current practices, and obtaining user opinion. Each of the three types has something to offer; none satisfies all the requirements, and only one, obtaining user opinion, addresses the central problem of determining the expectations patrons have of the collection.

LIST CHECKING

The traditional way of evaluating a library collection is by measuring it against some standard—a bibliography, a catalog of another library’s holdings, or a list of recommended titles such as Books for College Libraries. The principal deficiency of lists is that they may have no real relationship to local needs and will become outdated. Checking bibliographies against a card catalog may impose the expectation of a high degree of scholarship on the collection since the compilation is the work of an expert. The message conveyed—that these materials should be in the collection—may not be a valid assumption. Also, bibliographies are not available for all subjects within all disciplines. Lists continue to be useful, however, because they provide titles for possible inclusion in the library’s collection.

A variation of the list-checking method was developed in the 1970s with the shelflist measurement projects pioneered by the University of California. This system permits comparison of holdings defined in broad LC classes, thus providing a macrolevel analysis of the library’s collection in relation to other libraries that are presumably peer institutions. To the extent that the other library and its collection are desirable models, the technique can identify broadly defined areas of a collection that may require attention. The principal objection to this method is that the possibly sharp differences between ostensibly peer institutions will impose an artificial standard of little real value for collection development at the local level. It does, however, focus on using LC classes to define holdings, thus avoiding the problem of dated and irrelevant lists of titles.

Citation analysis offers another standard against which a library’s collection can be measured. This method provides more flexibility than a fixed catalog or bibliography but has to be replicated numerous times before conclusions can be drawn. Citation analysis matches the collection against the cited works in an article deemed to be representative of the field. It poses the question, “Could this article have been written using this library’s present resources?”

COMPILING STATISTICS

Statistics on how library collections are used also can offer some clues on adjustment of collection practices. The most accessible, and therefore acceptable, measure of a collection’s utility is the record of its circulation. Allen Kent’s recent study indicates that “more than 50% of materials purchased for research libraries have never been used and . . . a small portion of any collection is in such heavy demand that these titles are unavailable when wanted, . . . accounting for about 50% of the books
requested from the library's holdings.\textsuperscript{4} The Kent study confirms Fussler's classic analysis of the University of Chicago's collection. There it was found "that if the least used fifty percent of a collection were removed, ninety three percent of the books requested would still be available. If eighty percent were removed, eighty percent of the demands would be satisfied. . . .\textsuperscript{5}

F. W. Lancaster has carried circulation analysis a step further by comparing circulation statistics by LC classes with the shelflist.\textsuperscript{6} By grouping circulated materials into broad LC classifications, it is possible to measure any given LC class as a percentage of all circulated LC classes. This same percentage is compared to the representation of the LC class as a percentage of all books in the collection. The two percentages are compared and any discrepancies noted. Thus if books in the LC classification account for 12 percent of the titles circulated but only 5 percent of all titles in the collection, there is a need for further examination. This system assumes that each recorded circulation is a valid expression of need. But a given book may have circulated many times and been used by few persons as a result of renewals. A major problem with this method is that it does not address the unmet needs of the library's clientele. Furthermore, imbalances in the collection are discovered only after all costs of adding the item have been incurred. A more fruitful approach would be to identify potential demand before acquisition.

\textbf{Obtaining User Opinion}

A third method, the questionnaire, confronts the issue of identifying user needs. This approach has the advantage of addressing specific aspects of the collection in varying degrees of detail. The focus on locally taught courses and programs ensures that the collection not be asked to measure up to some arbitrary, and possibly artificial, standard. But most library users pay little attention to the collection and only respond to the absence of desired titles.

In the late 1960s and again in the mid 1970s another approach was developed that used LC classes to define the needs of locally offered courses. McGrath and Durand proposed the method;\textsuperscript{7} Golden modified it.\textsuperscript{8} In both cases, the library assigned LC classes to the courses listed in the university's catalog. McGrath used the method as a management tool for making allocations; Golden for collection analysis. Golden and her colleagues assigned call numbers to courses based on their description in the college catalog. In her analysis of the project Golden noted that both the LC classification and the university catalog presented some problems. "In many cases, the LC schedules did not contain specific classification numbers for the subject treated in . . . courses. . . . Inadequate (or . . . inaccurate) course description was the major problem presented by the university catalog."\textsuperscript{9} The strength of the method lies in relating LC classification numbers to the local curriculum.

Libraries bear the major responsibility for supporting the institution's teaching and research programs; experience has shown that in many instances we have failed in this important mission. The teaching faculty defines for its students the areas to be studied and researched. The subject
bibliographer, while skilled in matters of bibliographic control, simply lacks the in-depth knowledge needed to tailor a collection to fairly precise specifications. By fusing the skills of teaching faculty and librarian, bibliographers can flesh out the skeleton described in the collection development policy.

**COMBINED APPROACH**

An approach devised at the State University of New York (SUNY) at Binghamton in 1976-77 and modified for use at the University of North Carolina at Charlotte in 1979-80 combines elements of the three basic methods outlined earlier: list checking, statistical compilation, and the questionnaire. Instead of answering general questions about the collection, professors are asked to identify the LC classes that are significant for the courses they teach. The resulting information is compared to the library’s holdings in the indicated call number areas. If serious discrepancies between course requirements and library materials are present, then a list—for example, the *Library of Congress Shelflist*—can be scanned to identify available titles to fill holes in the collection. This method defines local courses by LC call numbers in such a way that bibliographers can easily analyze the book collection and its ability to meet needs.

In 1976, the Anthropology Department at SUNY-Binghamton agreed to participate in the collection analysis undertaking described above. After a meeting with the faculty to explain the general concept of the study, the bibliographer met with each professor to review procedures and answer any questions pertaining to the terminology used in the LC schedules. The professors then received copies of the GN schedule with instructions to examine the call numbers listed there and to record next to a call number the course(s) for which the call number had significance. Figure 1 shows this initial step.

The information was transferred to a master GN schedule, creating a list of call numbers with all of the courses offered by the department that needed materials in that area. An example of this list appears in figure 2.

To overcome the deficiencies of the GN schedule (sometimes at variance with both current concepts and terminology in the anthropological literature), and to accommodate the heavy interdisciplinary needs of the field, follow-up interviews were held to permit the professors to add terms and concepts missing in the schedules. These interviews generated a “free” vocabulary to supplement the fixed terms of the GN schedule. The terms were recorded on three-by-five cards and later grouped into some five-hundred distinct “free” terms.

The next step was to translate the “free” terms into LC subject headings. This allowed assignment of LC classes to the subject headings, permitting examination of the shelflist. *Library of Congress Subject Headings* provided forty of the subject headings with LC call numbers. Another 270 terms with corresponding LC call numbers came from using *Subject Keyword Index to the Library of Congress Classification Schedules 1974*. The remaining 210 terms were unusable for this analysis of the book collection.

After developing the list of call numbers, GN and others, with a record of the courses that had cited them, the set of call numbers was checked
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ANTHROPOLOGY

Ethnology, Social and cultural anthropology

Cultural traits, customs, and institutions

Technology. Material culture - Continued

Transportation

Cf. GN407.6+, Domesticated animals

438
- General works
439
- General special
- Routes of communication
  Including trails, roads, bridges, etc.
  Transportation by water. Navigation

440
- General works
  Boats
  Canoes

441
- Vehicles. Wheels
  Snowshoes. Skis

442
Economic organization. Economic anthropology

- General works
- General special
- Allocation of natural resources
- Division of labor. Organization of work
- Specialization
- Cooperation. Competition
- Property. Ownership

449
- General works
- Land tenure

Figure 1
Page from GN Schedule Annotated by One Professor
Showing Course Numbers and Call Numbers

ANTHROPOLOGY

Ethnology, Social and cultural anthropology

Cultural traits, customs, and institutions

Technology. Material culture - Continued

Transportation

Cf. GN407.6+, Domesticated animals

438
- General works
439
- General special
- Routes of communication
  Including trails, roads, bridges, etc.
  Transportation by water. Navigation

440
- General works
  Boats
  Canoes

441
- Vehicles. Wheels
  Snowshoes. Skis

442
Economic organization. Economic anthropology

- General works
- General special
- Allocation of natural resources
- Division of labor. Organization of work
- Specialization
- Cooperation. Competition
- Property. Ownership

449
- General works
- Land tenure

Figure 2
Page from GN Schedule Indicating All
Course Numbers for a Given Call Number
against the shelflist and the number of titles recorded on the master call number list. An example of the list appears in figure 3.

At this stage we have compared the number of times a call number was cited to the number of titles with that call number in the shelflist. When the comparison indicated that holdings were inadequate vis-à-vis apparent demand, the subject heading was noted. If the demand proved to be significant (after examining the frequency of the course, its level, etc.), the bibliographer moved to the next step: identifying available titles.

<table>
<thead>
<tr>
<th>Number of Titles</th>
<th>ANTHROPOLOGY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Course Numbers</td>
</tr>
<tr>
<td>ANTHROPOLOGY</td>
<td></td>
</tr>
<tr>
<td>Ethnology, Social and cultural anthropology</td>
<td></td>
</tr>
<tr>
<td>Cultural traits, customs, and institutions</td>
<td></td>
</tr>
<tr>
<td>Technology: Material culture - Continued</td>
<td></td>
</tr>
<tr>
<td>Transportation</td>
<td></td>
</tr>
<tr>
<td>General works</td>
<td>155, 241, 315, 456, 521, 320</td>
</tr>
<tr>
<td>General special</td>
<td></td>
</tr>
<tr>
<td>Routes of communication</td>
<td></td>
</tr>
<tr>
<td>Including trails, roads, bridges, etc.</td>
<td></td>
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<tr>
<td>Transportation by water: Navigation</td>
<td></td>
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<tr>
<td>General works</td>
<td></td>
</tr>
<tr>
<td>Boats</td>
<td></td>
</tr>
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<td>Canoes</td>
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<tr>
<td>Vehicles: Wheels</td>
<td></td>
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<tr>
<td>Snowshoes, Skis</td>
<td></td>
</tr>
<tr>
<td>Economic organization: Economic anthropology</td>
<td></td>
</tr>
<tr>
<td>General works</td>
<td>155, 174, 172, 243, 244, 241, 315, 326, 357, 351</td>
</tr>
<tr>
<td>General special</td>
<td></td>
</tr>
<tr>
<td>Allocation of natural resources</td>
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<td>Division of labor: Organization of work</td>
<td></td>
</tr>
<tr>
<td>General works</td>
<td>146, 172, 243, 244</td>
</tr>
<tr>
<td>Specialization</td>
<td></td>
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<tr>
<td>Cooperation: Competition</td>
<td></td>
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<tr>
<td>Property: Ownership</td>
<td></td>
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<tr>
<td>General works</td>
<td>243, 244, 456</td>
</tr>
<tr>
<td>Land tenure</td>
<td>155, 241, 240, 244, 261, 515, 532, 640, 642, 635</td>
</tr>
</tbody>
</table>

Figure 3
Page from GN Schedule Showing Course Numbers, Call Numbers, and Number of Cards in Shelflist

To determine the titles to be added to the collection, the following procedure was used. The subject heading was searched in the card catalog, and author-title information for books in appropriate languages published after 1974 was recorded. The same subject heading was then searched in Library of Congress Subject Catalogs for the preceding four years. Four years allowed a reasonable chance that a title would still be in print. Titles in Library of Congress Subject Catalogs already in the library's collection were ignored; a short author/title entry showing volume and page number of the LC Catalog was prepared for each of the remaining titles. Once all the desired subject headings had been searched and potential titles identified, the bibliographer selected materials to be added to the collection, with the expectation that they would fill a real need.

The system described above was modified before being used to examine the holdings in Atkins Library at the University of North Carolina at Charlotte, where both the Sociology Department and the History Department participated in the evaluation. To indicate an appreciation of the interdisciplinary requirements of a course and the range of schedules
available for annotation, each professor received the *Outline of the Library of Congress Classification*. The professor then selected the outline for each of the schedules considered useful, but not the schedule itself. For example, if the preliminary examination indicated a need for Class H, Social Sciences, a photocopy of the outline of the H schedule was provided. The outline was annotated in the manner described earlier, by recording next to a call number the course number it served. By being able to annotate schedule summaries for as many classification areas as desired, the problem of meeting interdisciplinary needs with “free” terms was less significant. Although each professor was asked to indicate up to ten terms for each course offered to supplement the fixed terminology indicated in the schedule, very few did so, and that portion of the evaluation was dropped. The information taken from the LC materials was then recorded on computer data sheets, coded to identify the department, professor, call number, and course(s).

After all the records had been entered into the library’s computer, a simple sort by call number created a record that showed the number of times a call number had been cited. The resulting printout was compared to the shelflist and the number of titles noted. This information was then put on another set of data sheets that indicated call number, number of cards, and an English-language equivalent of the call number. The English equivalent was added so that the teaching faculty would be able to understand the report on the holdings in the call numbers that they had stressed. The final report to the faculty lists each of the courses and indicates the call numbers with English description and corresponding number of titles. When a gap was detected in the collection, titles for potential addition to the library’s book holdings were generated by searching the appropriate call number in the *Library of Congress Shelflist*. This eliminated the step of developing subject headings to be searched in *Library of Congress Subject Catalogs*.

The technique described above combines the efforts of teaching faculty and librarian in a very effective way. Professors, by using the LC schedules to describe their courses, can transmit their subject expertise to the bibliographer as usable information. Repetition of certain call numbers helps to establish an order of priorities that provides valuable evidence for decisions on weeding, storage, replacement, and duplication. The procedure also provides a convenient method for evaluating materials support for proposed courses and programs. It provides insight into the interdisciplinary use of materials. By translating course needs into LC classes and, if necessary, LC subject headings, the library has a powerful tool for collection development and analysis that transcends individual course descriptions and allows an understanding of how the total book collection serves all the university’s teaching and research requirements.

This type of analysis ensures a great deal of communication between the librarians and the teaching faculty. Professors learn about the importance of LC subject headings and classification. Often they are delighted to discover the shelflist and find it useful for their own research. Bibliographers gain better understanding of course content, enabling them to point out similar interests among faculty members from different depart-
ments. Also, in working with faculty on course analysis, the bibliographer has the opportunity to advertise bibliographic instruction, computerized literature searching, and other library services.

In sum, the method provides valuable information for both the librarians and the teaching faculty. The faculty gains better understanding of the book collection and how it supports the curriculum. Bibliographers learn of gaps in the collection before they become embarrassingly visible as the result of unfulfilled demands. Administrators, with a better understanding of course needs and library support, can allocate funds for materials in a more rational fashion, rather than relying on past practices as their principal guide. Finally, the contributions of professors and librarians in this collection analysis procedure help to establish and maintain a useful collection that serves the needs of its patrons. And that, after all, is what libraries are all about.

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