LIBRARY RESOURCES & TECHNICAL SERVICES

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Editorial: Welcoming an Automation Editor to *LRTS'* Editorial Board: Joe Matthews

RTSD construes its scope of interests broadly. The division covers all the many functions relating to resources—the collections and their stewards—and technical services—those behind-the-scenes activities by which those resources are organized and prepared for use, along with the people who perform them. The five sections within the division furnish focal points for members particularly interested in resources, cataloging and classification, preservation, reproduction, and/or serials. There are overlaps, to be sure, visible in the coverage of the "Year's Work" articles in this issue. People interested in resources may not confine themselves to monographs but may also think about materials issued in parts destined to go on forever—namely, serials. Preservationists are concerned with reproduction, since it is one method of preserving the content, if not the physique, of deteriorating materials. And so on . . . .

RTSD members are concerned about automation. A glance at the literature reviewed in these pages makes this clear. Either you plan to automate, have just automated, or automated some time ago and are planning upgrades and refinements to your system. Yet, no automation section serves as a focal group for these interests or sends an assistant editor to our editorial board to monitor interest in this area. For the last year we worried about that at editorial board meetings.

At our San Francisco meeting, we took the bull by the horns and agreed to seek a special editor for automation. This editor's job is to identify specific issues and problems in resources and technical services automation that *LRTS* articles should address and locate researchers investigating those topics who might publish their findings with us.

The solution raised a new problem: who is the best person for the job?

The answer came easily: someone clearly identified with technical services automation research; someone who knows what is going on and who is doing it, someone with sound judgment about what is truly important today and the foresight to discern what will be important tomorrow, someone with publication experience, and someone dedicated enough to volunteer the time and energy the job requires. In short, we wanted a minor miracle of an editor.

Our miracle materialized: it is Joe Matthews.

Joseph R. Matthews is vice-president of operations of Inlex Inc., a company that designs and sells computer-based systems that do technical service work. He is familiar to most of us as an automation expert—speaker at ALA Conferences, consultant to libraries, and author of myr-

iad articles as well as several important books, the latest of which is *Suggested Guidelines for Screen Layouts and Design of Online Catalogs* (1986). We believe Joe's experiences studying automation issues in all types of libraries, publishing in all kinds of media, and working directly in the field make him an especially fine candidate for our job.

Welcome to the *LRTS* Editorial Board, Joe Matthews, special editor for automation.—*Sheila S. Intner, Editor.*

READERS, PLEASE NOTE: Division awards and section annual reports will appear in the next issue of *LRTS.*—*Ed.*

Meet Karen Muller: RTSD's New Executive Director

We in RTSD are fortunate to be able to greet Karen Muller, our new executive director. Karen came aboard as CEO just before Annual Conference, and if you were in San Francisco, you may have had the pleasure of meeting her.

Asked to furnish some background information for this biographical sketch, Karen sent "A slightly irreverent résumé." It epitomizes her splendid style: a core of thorough competence and well-honed knowledge encapsulated by sheer exuberance.

In the solid core, Karen Muller is a Mount Holyoke baccalaureate, earning her degree in the field of art history. She holds two advanced degrees: an M.B.A. in marketing and finance from the University of Chicago's Graduate School of Business and an A.M.L.S. from the University of Michigan, where she was elected to Beta Phi Mu in December 1972. During her Ann Arbor residence, Karen did preorder searching for government documents acquisitions under the watchful eyes of Sara Heitshu and Kathy Cunningham.

Her resources/technical services credentials include managing library information services for Quality Books, a Lake Bluff, Illinios, book distributor, managing library services for Librex/Yankee Book Peddler in Albuquerque, New Mexico, and consulting as an associate of RMG Consultants, Inc. In these positions, Karen evaluated current services and helped set goals for client services. Before that, she headed the tech-

nical services department at Ryerson and Burnham libraries of Chicago's Art Institute and cataloged at Northwestern University and the Yale Center for British Art in New Haven, Connecticut. While at Yale, Karen received initial subject authority file training from none other than Bob Holley, currently chair of CCS.

In a positively radiant exterior, Karen exudes enthusiasm, imagination, and energy. It takes all of these to undertake the many endeavors Karen has been involved with, both within ALA—working on the Continuing Education Subcommittee of RS' Collection Management & Development Committee, acting as CCS' representative to the AAP/RTSD Joint Committee's Subcommittee on Library Marketing Survey, and participating in the Technical Services Costs Committee—and outside of it—planning a 1986 ARLIS/NA conference on authority control and editing the proceedings, participating on the board of the Center for New Television, and leading the Mount Holyoke Club of Chicago as its current president, to mention just some of her recent activities.

Karen also is gentle and generally unperturbable, two elusive, but important, assets for any CEO.

These outstanding accomplishments are fine preparation for her current post. I know that you join me in extending the warmest welcome to Karen Muller and that we shall all enjoy working with her in the future.—*Ed.*

A Tradition of Looking to the Future

The rapid growth of new technologies is revolutionizing methods of information transfer and the job of the librarian. Computers and telecommunications capabilities allow libraries to tap vast information resources that may not be physically within their walls. Publications too large in size, too obscure, or too expensive for a library can be located electronically through data networks. Computers for cataloging, circulation, and serials control have made libraries more efficient and allowed librarians to create new methods of information retrieval.

Leaders in the field of information science differ in their speculations about the library of the future and the role of technology, but they see as fundamental the librarian's responsibility to preserve the record of human experience by acquiring, organizing, preserving, and providing access to information. As an expert in the use of new technologies, the librarian is an information specialist, with the essential job of managing and providing access to the immense amount of information created in today's world.

The Graduate School of Library and Information Science (GSLIS) at the University of Illinois at Urbana-Champaign is devoted to publishing works of current and pivotal interest to librarians and information specialists: *Library Trends*, Occasional Papers and Monographs on specialized topics, Proceedings of the Clinic on Library Applications of Data Processing, Proceedings of the Allerton Park Institute, and bibliographic guides to the special collections of the University of Illinois Library. Please write for a complete catalog. All orders must be prepaid; make checks payable to the University of Illinois (include 50¢ postage).

Publications Office, Dept. A
Graduate School of Library and Information Science
249 Armory Building
505 E. Armory Street
Champaign, IL 61820

GSLIS

Proceedings of the Clinic on Library Applications of Data Processing (1975-1987)

The Use of Computers in Literature Searching and Related Reference Activities in Libraries (1975).
1976/0-87845-043-2/158 pp./cloth $8.00

The Economics of Library Automation (1976).
1977/0-87845-046-7/163 pp./cloth $8.00

Negotiating for Computer Services (1977).
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Problems and Failures in Library Automation (1978).
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Human Aspects of Library Automation: Helping Staff and Patrons Cope (1985).
1986/0-87845-073-4/129 pp./cloth $15.00

What is User Friendly? (1986)
forthcoming 1987/0-87845-076-0/cloth $15.00

Questions and Answers: Strategies for Using the Electronic Reference Collection (1987).
forthcoming 1988/0-87845-077-7/cloth $15.00

Interaction: Letters to the Editor

Regarding "*Scientific Illustration* in Some Boston Area Libraries" by A. Herz [*LRTS,* 31(3):239–47] . . . the author's experiences searching for this topic in library catalogs are indicative of the modus operandi of a library patron, in this case, an art historian with expert knowledge of a specific area of study. The art historian brings to the library catalog certain expectations about the meaning of subject headings and the type of library material to which they should be assigned, and about the relationships among subject headings. In this search for scientific illustration, the art historian's expectations about subject headings, type of library material, and term relationships did not coincide with those represented in libraries' catalogs.

To assist subject experts, the library catalog must be explicit in terms of the type of material assigned a certain subject heading and of the relationships among subject headings. For example, a scope note for "Scientific illustration" could be included in the catalog to tell users the type of material to which the library assigns this heading, i.e., books about scientific illustration, books of scientific illustration, or both. A record of the cross reference structure for "Scientific illustration" could be included in the catalog to tell users narrower and related headings that they could consult in the catalog to find additional material.

The author also gives the impression that her searching experiences are not unique to this topic or the five catalogs searched. Rather experts' expectations about the library catalog often do not coincide with the information represented in the catalog . . . . The library catalog needs to be explicit about the meaning of subject headings, their scope, and the relationships among subject headings.—*Karen Markey, School of Information and Library Studies, University of Michigan, Ann Arbor.*

The Year's Work in Technical Services Research, 1986

Judith Hudson and Geraldene Walker

ANY STUDY of the research being carried out within a particular field must take account of two basic considerations—are we asking the right questions, and are we investigating them in the best way? As a research discipline, library and information science is relatively new, and a variety of writers have pointed to the weakness of our research, its basically descriptive nature, and its lack of scientific method.[1-3]

Harris claims that, although such elements contribute to "the general malaise of research in library and information science," the basic problem is rooted in the prevailing belief in a positivist scientific epistemology. He characterizes this approach as being based on the idea that library and information science is a natural science, amenable to quantitative measurement and governed by general laws and theories that are applicable in practice, requiring that its practitioners maintain a professional neutrality. Developments in the social sciences over the last twenty years led to the belief that this positivist approach has little value as a means of producing knowledge of social reality, due to an inability to define a controlled system when the objects of study are human beings. Researchers in library science have yet to accept the premise that these methodological advances apply also to their field. Harris argues that their research requires three critical methodological imperatives:

- a holistic approach based on paradigms in the social sciences;
- a recognition of the socioeconomic embeddedness of the researcher and the impossibility of a truly value-free approach; and
- a move from the purely descriptive to a dialectical, explanatory mode that investigates the contradictory nature of the underlying social structures inherent in our view of a "free library service in a capitalist society."[4]

The validity of these criticisms is illustrated by two other articles discussing research within the field. Allen identifies the major motivations for the conduct of in-house research as problem solving, planning, and staff development, stressing the role of management in promoting and supporting such research. He acknowledges that "research, and in-

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Judith Hudson is Head of the Cataloging Department, and Geraldene Walker is Assistant Professor in the School of Information Science and Policy at State University of New York at Albany.

house research in particular, should serve the pragmatic ends of the library.''[5] Wallace's analysis of the use of statistics in library and information science research confirms its descriptive nature. Although journal articles in the field had a higher ''impact'' value (based on their frequency of citation), they were less likely to make use of inferential statistics than articles in the fields of education, business, or social work.[6]

CATALOGING

The characteristic types of cataloging research published in 1986 include evaluations of the effects of using bibliographic utilities, the impact of the *Anglo-American Cataloguing Rules,* 2d ed. (*AACR2),* and the experiences of research libraries in implementing it; analyses of cataloging records, investigations of access points, and studies of cataloging activities. Methodologies used to investigate these areas were familiar: surveys and case studies, many of which were purely descriptive.

Hafter's case study of the effects of bibliographic utilities for cataloging on the status of professional catalogers employed in-depth interviews with catalogers, administrators, and other staff members at six academic libraries. She found that increased reliance on computerized networks contributed to the apparent ''deprofessionalization'' of cataloging by shifting many activities to lower-level staff. Activity by national and regional groups of cataloging peers led to cataloging standards being set and practiced at these levels rather than at the local level, although network control over standards includes a great deal of self-monitoring by professional leaders. Catalogers, administrators, and network personnel developed competing standards and quality control techniques. Hafter concludes that a new group of ''master'' catalogers, whose knowledge includes both cataloging and automation expertise, may be developing.[7,8]

A study published late in 1985 by Agnew, Landram, and Richards supports the idea of ''deprofessionalization.'' A survey of the Association of Research Libraries (ARL) was conducted to investigate the extent to which monographic backlogs exist, reasons for their growth, and methods of storing and providing access to them. Strategies being used to contain the growth of backlogs include placing them in public areas with minimal-level cataloging, allowing them to circulate, and upgrading the duties and responsibilities of cataloging paraprofessionals in an attempt to cope with the disparity between acquisition and staffing levels.[9] By shifting the more routine cataloging tasks to lower staff levels, the energies of cataloging librarians are concentrated on the more professional responsibilities of original cataloging and subject analysis.

Charbonneau compared the circulation of monographs that received original cataloging with those done with copy to determine whether effort should be shifted from original to copy cataloging. He found little difference in the rates of circulation and concluded that efforts to adjust acquisitions to increase the proportion of materials requiring copy cataloging would have little effect on the patron's perception of the quality of the collection.[10]

Hudson reported the results of the survey on copy cataloging activi-

ties, including administration, organization, and staffing of copy cataloging units; activities, training, and evaluation of catalogers, authority work, quality control, performance standards, and effects of an online system on copy cataloging.[11]

Researchers are investigating the experience and impact of AACR2's implementation. Hopkins and Edens gathered essays describing the implementation of AACR2 at fourteen research libraries in the United States. In addition, the editors surveyed ARL member libraries regarding strategies adopted for implementation. The study delineates the methods used to implement the code, compares the realities of implementation with what had been planned, and evaluates both the code and problems associated with its implementation.

Some trends that emerged are

- Little or no additional staff was available to cope with implementation.
- Increasing attention was paid to authority control, increasing the time and cost of cataloging.
- Changes in cataloging organization and/or work flow accompanied implementation in most libraries.
- AACR2 had a greater effect on copy cataloging than on original cataloging.
- Most libraries emphasized cleaning up their manual catalogs, relying on future online systems to provide mechanisms for dealing with machine-readable records.
- Implementing AACR2 provided an impetus toward more automation.
- There was little response to the implementation of *AACR2* by the general public or public services staff.

Effects of AACR2 were generally negative because of the difficulty of integrating new and old headings, higher cataloging costs, lower productivity during the implementation period, frustrated staff, confused users, and a more complex catalog. On the other hand, greater emphasis on authority control, forced reexamination of the cataloging process, and reeducation of the library staff were all considered beneficial.[12]

Musavi's evaluation of AACR2 supports, in part, the findings reported above. She asked catalogers and library educators to indicate the extent of their agreement with a series of statements about it. Both groups were generally supportive of AACR2, but they agreed that it has not made the task of catalogers easier or more efficient. Doubt exists that AACR2 was a sufficient improvement over AACR1 to justify its cost. Both catalogers and educators opposed development in the near future of AACR3 or a new code that differs radically from the principles of AACR. Both groups supported the concept of authority control and expressed interest in online catalogs.[13]

By analyzing cataloging records constructed according to AACR2, Taylor and Paff compared the actual number of changes resulting from AACR2 at one library with a 1980 projection made at another library. Personal names accounted for most of the changes, followed by corporate names, series, geographic names, and uniform titles. The authors

found that impact of AACR2 fell quite close to the projection, demonstrating that the earlier research was generalizable and an accurate predictor of change.[14,15]

Two surveys investigated cataloging of specialized materials. Thompson surveyed academic music librarians to identify the impact of the centralization of cataloging on the efficiency of service to users of music libraries. The author concluded that the site of music cataloging is not important as long as the cataloging is done in a timely fashion. However, music catalogers prefer to be located in the music library in order to have resources close at hand and be in close proximity to users.[16] A survey of cataloging practices for curriculum collections of academic libraries by Wilson, Finley, and Clark found that most curriculum materials are cataloged and classified either in the curriculum center or by the technical services department. They generally receive standardized, full-level cataloging, but no standard classification system has been developed for them. Many of the libraries use a bibliographic utility, but less than one-third contribute cataloging records for curriculum materials. The authors recommend that cataloging for curriculum materials be entered into the bibliographic utilities to promote standardization and facilitate resource sharing.[17]

Questionnaires were sent by Wei to East Asian libraries in North America. Users of the Research Libraries Information Network's (RLIN) Chinese-Japanese-Korean (CJK) terminals reported their usefulness for cataloging, reference and, in some cases, acquisitions. Most users are satisfied with RLIN-CJK, although half believe it is too expensive. More than 80 percent of nonusers plan to automate CJK cataloging sometime in the future. The author concludes that the OCLC-CJK system, which is still under development and expected to be less expensive than RLIN's, will play a crucial role in decisions made by small and medium-sized East Asian libraries, since cost is a major factor in automation of CJK cataloging.[18]

Two case studies dealt specifically with operations of online systems. Hudson[19] reviewed the cataloging operations at a number of institutions that have implemented local online systems. She concluded that major changes of the local system involve authority and quality control, catalog maintenance, decentralization of technical services functions, and enhanced access to materials.

System support for bibliographic and item record creation, record editing, cataloging support, error checking, shelflisting, and labeling provided by nine integrated online systems was examined by Highsmith. Checklists of the features of local processing systems, prepared from data gathered by observing staff at the institutions using the systems, were sent to vendors. The author aggregated the vendor responses and analyzed the impact of system design on work flow. She concluded that the design concepts inherent in the studied systems represent an interim stage in the evolution of integrated systems and that when linked systems and direct access to utilities become available through local systems, libraries will probably prefer to share cataloging through a customized local environment.[20]

Bausser, Davis, and Gleim investigated the error detection capabilities of the Triangle Research Libraries Network (TRLN) online system by analyzing 360,000 bibliographic records. They established that three-quarters of the errors found by the computer are unique to its environment and cannot be found manually. Others, e.g., spelling errors and missing entries, cannot be detected by the computer. The authors predict that the use of routines (automatic shelflisting, authority control, spelling error detection) will increase and that interactive links between local systems and bibliographic utilities will facilitate error checking at the point of origin.[21]

SUBJECT ACCESS

One result of the spread of online public access catalogs (OPACs) is an escalation of interest in how they can be improved. Two basic approaches were suggested for more comprehensive subject access: increasing the number of subject access terms or adding subject data as a "front end" to the main catalog file. Research reported this year includes variations on both of these approaches and attempts to address two basic questions: what subject information will assist searching, and where will it come from?

Looking at these questions from the point of view of the cataloger, DeHart and Matthews report on a case study that attempts to evaluate the subject access tools in one university library by analyzing the relationship between access points (headings and classification numbers) as they were used in the library and as they occurred in the subject analysis tools. They concluded that the application of subject headings was standard, but 57 percent of Dewey class numbers were changed by catalogers, usually by truncation. This resulted in searches that retrieved far too much material because too many items were classed at a single number. The authors also confirmed the value of assigning numbers according to the perspective or point of view of an item.[22]

Another small investigation of user requirements from a subject catalog is reported by Diodato, who made use of users' perceptions of suitable search keys in order to evaluate the potentiality of tables of contents and end-of-book indexes for subject access enhancement. Terms and phrases selected by patrons to describe books were compared with information in books and with assigned subject headings. Readers' terms matched LC subject headings 72 percent of the time; terms in the contents lists matched 81 percent of the time; and almost 82 percent matched terms in the end-of-book indexes. Many terms in books proved to be too specific; nevertheless, the author concludes that terms taken from sources within a book can serve as a useful complement to standardized subject headings.[23]

Machine-readable data from the nineteenth edition of the *Dewey Decimal Classification (DDC)* formed the basis for a two-year OCLC research project by Markey and Demeyer to test the effectiveness, use, and acceptability of classification as a searcher's tool for access, browsing, and display in an experimental online catalog. Subsets of two parallel versions of the catalog were produced, one providing the traditional search

capabilities of an online catalog (subject headings, keywords from titles and subject headings, and class numbers) and the other including these same search keys but enhanced with terms taken from the Dewey schedules and index, plus an additional search key to show hierarchical subject relationships.

Subsets of data from four different library catalogs were loaded into both formats for testing by patrons and staff at each of the participating libraries. The test sites were selected to be representative of different library types and the test catalogs represented different subject fields selected by the libraries. Each query was searched twice by staff members or patrons.

The dependent variables selected for evaluation were time spent searching, estimated recall and precision, user satisfaction, system preference, and ease of use. All items displayed were regarded as retrieved, and relevance judgments were based on the bibliographic citation rather than the document. As a result, recall and precision measures were not considered reliable for the measurement of effectiveness and were used only to help identify problems and inadequacies. There was surprisingly little overlap between the two searches. Success rates were high in both catalogs, and users seemed to find both systems relatively easy to use. A detailed analysis of search failures revealed that problems were most frequently caused by errors in the data itself, lack of flexibility in the match algorithm, or poor selection of search terms.

A number of variables measured in this project were subjective (satisfaction and system preference, for example), and the researchers expressed reservations regarding their validity. Nevertheless, the overall conclusion that terms taken from DDC successfully supplement keywords provided by titles and subject headings seems to be upheld.[24]

Other researchers have taken different approaches for the investigation of ways and means to enhance subject access. Jamieson and others looked at three separate areas in their research:

- the extent to which keywords linked by logical operators can be used as a substitute for a built-in cross-reference structure,
- the levels of truncation required to provide the most useful term clustering for matching, and
- the fields of the MARC record that are most useful as access points.

A research file of 341 records, providing a subject breakdown proportional to current accessions at the University of Western Ontario, was generated and compared with the library's name authority and LCSH lists, including all *see* references except for subdivisions under place names. The records generated 1,189 references or alternate headings (177 authors, 113 names, and 899 topics). The topical subject headings fell into two basic categories: incorrect terms (synonyms, variant spellings, opposites, or broader terms) and correct terms that failed to match (singular/plural or inverted forms). This is an important distinction, since this second group should be easier to match using keywords. Each record was examined to determine whether single keywords from the *see* references linked by Boolean AND operators occurred in any of the fields of the MARC record. Although about two-thirds of all the nonpre-

ferred headings could not be matched on keywords, there were significant differences between the two classes of headings. Almost half of those for authors could be matched successfully, while almost three-quarters of the subject headings (both name and topical) could *not* be matched using keywords.

The most important finding of this study is the usefulness of different types of *see* references provided via LC authority files. The researchers conclude (like Markey and Demeyer) that, despite its power, keyword searching cannot compensate for a lack of cross-reference structure.[25]

It is intuitively appealing to assume that subject access is improved by increasing available access points, but no evidence to date links the number of points to actual use of library materials. Knutson tested the number and type of access points per document with the year's circulation figures for documents in three selected areas of criminology. The data showed that the average number of subject headings per record had a negative correlation with circulation. Added entries did not correlate positively with circulation either. The author speculated that browsing may have a more important impact on circulation in high-use areas, while the subject catalog may be more important for low-use areas of the collection. Items with topical subject headings were likely to be more strongly correlated with circulation than items with name subject headings. These results lend some weight to the idea that, for certain types of materials, the equivalent of a full MARC record is not efficient in terms of future circulation.[26]

Micco compared reference structures provided by three very different subject access systems: LCSH, MeSH, and PRECIS. Claiming that the most basic requirement for comprehensive information retrieval is the quality and effectiveness of the syndetic structure of the controlled vocabulary, this study investigated the success of the three systems in guiding the reader from the initial input term to related headings. Five selected subject headings were enhanced with additional terms selected from the table of contents, chapter, section, and paragraph headings in a classic textbook on the topic. This created five groups of headings at different levels of specificity. The variables investigated were

- subject coverage measured from the total number of terms provided within a single subject grouping,
- "browsability" measured by a count of the number of subordinate terms within a hierarchy,
- fragmentation measured by a count of the number of separate clusters within a subject area, and
- related terms measured as a count of the number of terms in a node within a cluster.

Scores on these four variables were obtained by adding the appropriate scores from each of the five original subject areas for each system.

Overall, the specialized MeSH vocabulary performed much better than the other two systems. The author pointed out that the poor performance of PRECIS on all variables is due partly to its being a relative newcomer to the subject access field and partly to the fact that it is open-ended, dependent on the documents being entered into the *British Na-*

tional Bibliography. Both LCSH and PRECIS were stronger in the provision of related terms falling outside the specific subject, though this also made them more fragmented. Permutations of subject terms in PRECIS, giving a context for a term, proved precise once the correct heading was identified.

Micco concludes that there are inconsistencies, weaknesses, and major gaps in all three systems and suggests that a major drawback of both LCSH and PRECIS is that they only display terms that are in use, giving the user little idea of the scope or "pattern" of a subject (though one could argue that it is confusing for the user to be shown terms for which no material is available). This research also highlights the difficulty in developing a single hierarchy suitable for every type of query.[27]

Research reported by Mahapatra and Biswas used an analysis of the associations among different PRECIS role operators to determine whether patterns of concepts within a subject vary among different subject fields. Two hundred abstracts of journal articles in three subject fields (taxation, genetic psychology, and Shakespearean drama) were used to develop "title-like phrases" as a basis for the selection of PRECIS input strings. Association studies were then carried out using the chi-square test to compare the frequency of occurrence among different pairs of role operators. Although no generalizations regarding the nature and behavior of role operators could be made, there were demonstrable differences between the subject fields.[28] It seems possible that this type of analysis of a variety of subject areas could provide useful structures for the development of subject displays within an online catalog.

User Interface

In addition to the content of the catalog record and its effect on user success, the advent of OPACs focuses interest on the interface itself and the most effective ways to display information. Croucher reports on a research project involving a series of user studies of the effect of interface features on retrieval. A pilot study on the use of the current microfiche catalog confirmed the findings of earlier catalog-use studies showing that only one-quarter of catalog users used the subject catalog, often looking under a broader heading even when requiring a specific item; that only half used the subject index, and that the usual behavior was to identify a general class number and then browse the shelves for individual items. A simulated online catalog was set up on a microcomputer to test the effect of the following variables: color highlighting, speed of presentation, amount of information per screen, paging and scrolling, and position of a sought item in a list. Tests were designed to assess the user's ability to find particular items, use the subject headings, follow up *see also* references, and move from the index to the book file. For each task the information was displayed in a variety of ways with different spacing, highlighting colors, and display speeds. Data were collected automatically and each task timed by the computer. A follow-up questionnaire collected information on user preferences.

Croucher found that, although color preferences varied widely, highlighting with any color aids performance. Light colors on a dark back-

ground and strong contrast between two colors seemed most effective. Information was easier to digest if centered and well spaced, and users preferred single screens to scrolling. Although the position of a sought item in a list did not affect the time needed to locate it, the amount of information presented and the speed at which it was displayed did affect performance: packed screens were harder to read, and users preferred information presented character by character, not a whole screen at a time. Overall, users liked to feel that they could control the system.[29]

Crawford also investigated the display of bibliographic records, concentrating on amount of information needed, amount of data per screen, and types of displays. Using part of the RLIN file containing records for all types of materials, a computer program generated screen images in a variety of formats. Statistical summaries showed the percentage of different-sized records that fit onto various numbers of screens and how density (i.e., percentage of screen space used) affected the total number of screens. He found that 90 percent of records used a single screen if entries were restricted to basic bibliographic data. Complete card-like displays with brief holdings information could fit on one screen in most cases, but labeled displays required two or more screens. Crawford concluded that three different levels of display—brief, medium and full—are needed for public access, along with a full MARC record for staff use. Like Croucher, he found that surrounding space makes an item easier to read and that it is helpful for an item to appear in context.[30]

ACQUISITIONS

Barker compared the performance of approval-plan and special-purpose vendors with that of vendors usually used for filling firm orders. Performance on difficult and rush orders was also monitored. Vendors were evaluated on their speed and efficiency in a relatively effective manner.[31]

A case study of the performance of American and foreign dealers of French-language materials was conducted by Coscarelli and Chalaron through telephone interviews and analysis of dealer performance. The authors also assessed the effects of the French government's ban of cover prices during 1979–80. No significant difference was found between the dealers, except that one had lower prices than the rest; the small sample size makes generalization inadvisable. By examining prepublication announcements and bibliographic sources, the authors concluded that the cover price ban was ineffective in discouraging excessive price discounting by large European discount chains.[32]

One library's experience with approval plans provided data for Schmidt to compare publisher-based with subject-based approval plans. Domestic publishers' catalogs were compared with holdings, and each held title was checked to see whether it had been acquired through a subject-based plan or by firm order. Although many of the titles listed were held by the library, a significant portion had been acquired as a result of firm orders. In addition, high return rates for subject-based approval plans were unsatisfactory. As a result of the study, the author concluded that publisher-based plans for domestic imprints are satisfac-

tory, requiring bibliographers to spend less time on materials covered by the plan and offering a much lower return rate.[33]

Bernstein surveyed libraries affiliated with institutions having graduate business programs to determine whether there was a difference in the acquisition and handling of corporate annual reports between libraries with separately housed business collections and those with integrated collections. No major differences between the two groups of libraries were found.[34]

ADMINISTRATION

Methods of determining the time and cost of each step in the retrospective conversion of monographic cataloging records were reported by Valentine and McDonald. The authors concluded that costs can be contained by selecting a resource file that maximizes the number of hits, streamlining the conversion process, selecting a cost-effective conversion method, and reducing the content of the records. The authors recommend that fields be selected for inclusion on the basis of retrieval value (i.e., whether the field is indexed and whether it is necessary for identifying the record).[35]

McClung's report of the cost study of a cooperative preservation microfilming project focuses on the steps involved in selecting, preparing, filming, cataloging, and shipping to storage. Each institution in her study gathered data on the required time and cost for each step in the process, using a work sheet for estimating project costs. Wide variations in the different institutions were attributed to the nature of the materials filmed, regional labor costs, local cataloging practices, and type of filming (in-house or commercial service).[36]

Work undertaken to supply information for the merger of two libraries is described by Cairns. Surveys were designed to estimate the number of titles and volumes to be merged into the receiving library collection, the duplication of titles, and the condition of the bindings. A brief description of each sample volume was combined with a photocopy of the shelflist and searched against the files of the receiving library. Estimates of volumes and titles (but not the estimates of duplication) made on the basis of this survey were later confirmed.[37]

The importance of involving library personnel in the planning of automation projects was investigated by Shaw at the Indiana State Library. Although staff experience with computer systems was limited, their participation and understanding was considered crucial to acceptance of a new system. A questionnaire concerning attitudes toward automation and expectations of its effects on staffing and training was distributed to all staff when the decision was made to automate cataloging and circulation. Two librarywide committees were set up as a result. A second questionnaire a year later monitored changes in attitudes and understanding. It demonstrated a general improvement in staff responses but showed that feelings about automation (already positive) were remarkably stable. Respondents' comments indicated that efforts to involve staff during the previous year increased positive attitudes and decreased apprehension about future systems.[38]

CONCLUSION

The majority of papers selected for inclusion here were either descriptive studies (surveys using questionnaires or interviews) or case studies of one or more libraries. Most focused on the clarification of *what* is known or *how* something is done, rather than on *why,* although a few were also developmental in using historical precedents to predict the future. Some studies were truly experimental, specifically those that investigated new types of subject access and those that assessed user reactions to different presentations of bibliographic information in an online environment. Opportunities for comparative and evaluative research are increasing as technology provides not only new areas of interest but also new methods of collecting data. Levels of statistical analysis remain rudimentary, with most research providing a broad picture rather than in-depth detail. The biggest step forward, which we have yet to see, is implementation of some of these research findings. When will we make that quantum leap from research to practice?

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Collection Management, 1986

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MY OVERALL IMPRESSION of the 251 books and articles about collection management published this year is that little new was said, but this judgment is not intended to be negative. The quality of writing and thinking is high; the interest and sincerity of the writers is evident; the importance of what has been said is undeniable. There are, however, definite emphases and concerns setting this year's publications apart from those of previous years.

Prices and costs continue to agitate librarians, as does the continuing increase in the quantities of materials published and alternative information resources available. Electronic information technologies (mainly CD-ROM, digitalization, and online databases) are seen as offering great possibilities for access, preservation, and further extension of information services, as well as new choices for expenditures. Integrally related to them is the issue of access to information and materials versus ownership. Cooperation, in particular possibilities for coordinated collection development, is another major issue. Selection, that key element in almost all collection management activities, elicited two of the finest articles of the year, by Ross Atkinson (10,11). Public libraries and school library media centers, which—starting in the 1970s—may have been neglected or overlooked in the great mass of publication and activity focusing on academic libraries, are now receiving significant attention, each with a major collection of essays (210, 243).

A whole class of very useful articles, those bibliographies and guides to selection that are crucial to collection development and evaluation are omitted here; there are simply too many of them to include. Likewise, I have not sought out dissertations, theses, unpublished documents, and internal publications. A great deal was written about collection management; it is reviewed here under six major headings: (1) general overview; (2) materials; (3) kinds of users and libraries; (4) evaluation and cooperation; (5) selection, acquisitions, and allocation; (6) access, weeding, and preservation.

GENERAL OVERVIEW

The second edition of the *ALA World Encyclopedia of Library and Informa-*

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tion Services carries a new article on collection development (167). Although it is a good survey of traditional and persisting activities and concerns, it is weak on current developments and problems; possibly the perspective is more that of the college library than the public or university library. Miller's definition of collection development, wide though it is, omits any reference to the problem of the sheer mass of published matter or to the issues involved in electronic publishing, access versus ownership, changing interests and needs of users in public and academic libraries, cooperation, and preservation. Nevertheless it is a good starting point for novices, provided that they (and the old hands) also read the survey in the *ALA Yearbook* of the year's events in collection management (160). It is here that the year's range of cooperative activities, new technologies, debates, discussions, conferences, and workshops is reviewed.

Marcia Pankake wrote the *LRTS* resources review article covering 1984 and 1985 (186); other related review articles were on serials (54, 150) and on acquisitions (204). David Kohl compiled two potentially useful bibliographies, or handbooks, one on *Acquisitions, Collection Development and Collection Use* (136) and the other on *Circulation, Interlibrary Loan, Patron Use, and Collection Maintenance* (137). He identifies articles reporting research and then summarizes the nature and results of each, producing a kind of handbook to which one could turn for a quick summary.

Two writers tried to apply insights from other fields to collection management, interestingly but not convincingly. Anthony Ferguson argued for the relevance of the structural-functional management model (90); although this allows one to identify certain collection management functions and then try to develop organizational structures to handle them, it leaves, as presented, some aspects of the subject unanalyzed. Stanley Verhoeven applies the "expectation of life" formula from demographic analysis to weeding decisions (233). Articles by Briscoe (26), Hendrick (119), and Holley (123) about academic libraries in general had good material on collection management.

Ostensibly seeking to develop "standards for preservation selection" (11, p.344), Atkinson helps the individual selector in any situation—from evaluation of the existing collection to selection of new (or replacement) items and of items for weeding, repair, or preservation. In "The Language of Levels," Atkinson argues that "the primary objective of the collection development policy . . . is to unify or focus expression concerning the current state and future direction of the collection" (10, p.141), and he discusses ways in which the collection development policy is a communication agent that should enable selectors to understand in detail the individual collections with which they are dealing. The burden is primarily on the selector, but it is no less on each of us responsible for collection management: "If we intend, therefore, to improve our understanding of the use and potential of collection policy, it is essential that we devote more attention to unravelling the complex and subtle network of relationships that constitute the policy as a system of communication" (10, p.148).

MATERIALS

"Today's Primary Issue—Pricing and Costs of Library Materials," the title of a short piece by Cargill (44), makes the essential point: there is no free lunch and libraries are hungry eaters. Statistics about publication quantity and prices are provided by the usual sources. The number of books published in the U.S. is about the same as the previous year's (24, p.419–28) but up slightly in Great Britain (24, p.436–38). Price inflation is greater than the GNP but, fortunately, the lowest since 1977; average prices went up 4.8 percent for books and 8.6 percent for periodicals (24, p.44–61; 215). Of all that is available, how much finds its way into libraries and what do libraries pay for it? Halstead reports Federal statistics on school and academic library acquisitions (24, p.398–402); Miller and Moran report on school library media collections; and "Public and Academic Library Acquisition Expenditures" gives state-by-state figures (24, p.352–76).

The effects of the growth in quantity of publications could be overwhelming, but are they really? Rudd and Rudd (199) assert that there is too much loose thinking about information overload and that most users, aided by effective library services, have ways of preventing overload. Will libraries burst at the seams? Molyneux (173) looked at the growth of collections in ARL libraries since 1962–63 and concluded that, contrary to received opinion, growth of these libraries has not been exponential.

Although inflation may have eased, there are other pricing problems. Loe (152) shows that the Thor Power Tool tax ruling indeed had an effect on both the size of print runs and the price of books, decreasing the former and increasing the latter. The issue of differential pricing by British periodical publishers continued to rage (8, 124, 229, 230); there was some evidence that concerns of American librarians were grasped by British publishers and that the problem had been eased although not rectified (229). Publishers are not entirely to blame for high prices, however; in a succinct article, Facente described for librarians' benefit the various elements that publishers must consider in pricing their output (85).

Among the major forms of materials, serials were most discussed during the year. Linkins (150) reviewed the 1984–85 literature on serials, and Clack (54) reviewed nine major publications of the 1980s. Martha Bailey's description (13) of a conversion project has an especially rich discussion of the complexities of managing serials. All three reiterate, effectively, the case for a separate serials unit within a library's collection management program. There is no question about the importance of serials in scholarly work, and with this in mind, Buzzard and Whaley (41), Stankus (221), and Taylor (224) comment on the place of serials in collections. Several people wrote about weeding projects (71, 207, 220).

A major concern regarding serials is format, specifically the promise and threat of electronic journals. The editor of *Library Systems Newsletter* believes that "the future is unclear . . . over the next several years and possibly well into the next decade, any displacement of hard copy and

microfilm serials by the emerging media will be through gradual evolution" (83, p.84). Interdependent problems of cost, standardization, production, editing, library users, and changing technology all make it unlikely that there will be a sudden, widespread change to electronic serials. Whether this is a comforting prognosis is a matter for each of us to judge.

Tugs in opposite directions continue to characterize digital technology and collections. Lynch and Brownrigg (158) affirm the potential power of electronic imaging technology to deal with problems of space and preservation and, especially, to provide "fast, widespread and accurate access to information" (158, p.105). On the other hand Calmes (43) reports that there is new confidence in microfilming and that the National Archives and Records Administration has for the moment chosen, on the basis of a study of actual and potential technology and costs, to stay with microfilm, the preferred medium, or even with archival-quality paper in certain cases.

The place of videotapes, cassettes, and software continued to be discussed (52, 78, 189, 190, 219); Roose calls CD-ROM the "new papyrus" (198); Eaglen laments the apparent continuing aversion to paperbacks (81); Carrier provides an extensive history of fiction in public libraries (46); Johnson reports on ACRL standards for audiovisual services and collections in academic libraries (131); Galloway and others describe the expanding range of formats being used in academic libraries (101); Lagana (142) reminds us of the value of nontraditional materials, e.g., popular culture, papers, manuscripts, and ephemera. Freides (97), in a thoughtful article analyzing the nature of production and dissemination of "information" by the federal government, makes useful distinctions among kinds of information and helps us think about issues of privatization and financing.

Access is a growing concern, as articles in Sul Lee's *Access to Scholarly Information* (146) show. Many others assert that library collection managers must de-emphasize ownership of materials and think of themselves as dealing with a "library without walls" (203), where the library is more a window of access than a "fortress" (110), or think of the library as a place to which information can be brought in new ways, such as telefacsimile (234) and digitalization (158).

The matter for debate is how to pay for access technology. Poole and St. Clair (191) argue for "funding online services from the materials budget," while Dowd, Pankake, and Whaley (76) reply, "Never!" The value of this debate is the analysis of the issue.

Kinds of Users, Kinds of Libraries

Little was written about how people use library collections. Budd (31, 32) did a citation study of American literature scholarship but decided citation analysis probably doesn't work well in the humanities, where it reveals "relatively small clusters of frequently-cited material and [does] not identify fringe areas" (32, p.49). McCain (161) looked at the literature of genetics, Feidler and Hurt at that on aerosols. Webb (240) de-

scribed the "user typology" devised at the Phoenix Public Library that illustrates the browser or reader, the researcher, and the independent learner, each "characterized by a progressively deeper involvement with . . . resources of the collection" (240, p.47). Helpful as this typology is in thinking about the kinds of collections to develop, it doesn't do full justice to the complexity of user needs, nor, of course, does it describe users in other types of libraries.

The ARL Task Force on Scholarly Communication produced a brief but rich document (50), whose central point was that while new technologies required "more specialized and technologically competent staff," as well as capital for equipment and software, the traditional collection needs remain. Journals will continue to multiply, as will all forms of scholarship in general—the numbers of both publications and manuscripts have increased. The forms of scholarship have diversified and now include a range of unpublished material such as raw data, archives, and electronic information; even the "definition of 'published' is becoming unclear" (50, p.5). The task force warned, "The challenge facing these libraries is how to respond to the present demands of scholars for information in traditional formats while they attempt to position themselves to participate effectively in future systems of scholarly communication" (50, p.6). Already there are complaints about the abilities of some libraries to serve their scholarly users (128). Most writers, however, urged libraries to be flexible, hospitable with user-friendly technology, and open (59, 163, 164).

Two collections of articles on public libraries (210) and school library media centers (243) were very welcome, as many of the recent developments in cooperation, evaluation, information technologies, and wider and freer access must be applicable in these kinds of libraries.

Brenda White's book (243) provides information and opinion on a number of important issues. Loertscher (153, 154) discusses a "collection mapping technique" that effectively describes and quantitatively evaluates the subject balance of a collection and its relationship to curriculum (see also 155). Jaffe (130) takes a favorable look at several combined school and public libraries in which collection appropriateness, use, size, and accessiblity have been enhanced by this kind of cooperation. Palmer, Domville, and Shelly (184) describe a successful cooperative arrangement among public and school libraries in Pittsburgh's northern suburbs that includes assigned subject responsibility and some coordination of selection and weeding. Smith (213) reviews the traditional purposes of school collections—to serve curriculum, professional, and recreational reading needs—and speculates on the effects of recent school-reform moves on collections; she also discusses the effects of several developments in publishing and in the society, e.g., inflation, widening range of published topics, censorship, continuing problems with quality of materials in some fields, and new information technologies. DeLoach and DeLong (68) provide a bibliography of articles from the 1980s on collection development in schools. The emphasis in most of these is on selection and evaluation based on use of the collection and user need at the local level rather than on reviews, prizes, or awards.

Cooperation between school and academic libraries is discussed by LeClerq (144), though not in White's compilation. Serebnick collected papers read at a 1984 ALA preconference (210). Crismond (61) gave an overview of collection management activities in a public library; Cartwright (48) showed how new technologies can assist management activities; Krueger (140) talked about guidelines for collection management; Hugh Atkinson (9) described the benefits of resource sharing to public libraries in multitype networks; Rawlinson (195) reviewed the selection policies at Baltimore. These are less notable for their content than for their audience.

Evaluation and Cooperation

Librarians have always sought means of evaluating the quality of their collections, thinking of quality as some intrinsic value in the content of the books and periodicals in these collections. In 1985 a *Library Trends* issue edited by Futas and Intner (99) was devoted to collection evaluation. The concern with evaluation this year has been largely in reports of continuing attempts to seek assurance that our cumulative collections are in fact varied and comprehensive, not merely massive duplicating of a relatively few items. Development in the 1980s of the RLG Conspectus and the National Collections Inventory Project (NCIP) sought primarily to guarantee that ARL libraries did in fact have the "collective capacity to support the nation's research needs," according to David Stam (218, p.4). His succinct history of collaborative collection development mentions earlier efforts that failed, describes the RLG Conspectus and NCIP, and discusses frankly several of the problems still unsolved. Besides use in wide-scale collection evaluation, the Conspectus was used in micro evaluation. Lincoln and West (147) used it to evaluate the Siberiana collection at the University of Alaska, and problems with its use are being overcome. Ross Atkinson's articles (10, 11) help individual selectors deal with the "language of the levels," and Hall's *Collection Assessment Manual* (113) and Reed-Scott's *Manual* (196), although ostensibly about NCIP, apply to librarywide projects.

Luquire (157) collected nine descriptions of current, successful, and yet different cooperative efforts. Mosher (176) writes about links between the RLG Conspectus and NCIP, while Farrell (87) describes use of NCIP in Indiana that demonstrates its value as an evaluation tool. Use of the Conspectus in the Northwest is described by Haley and Ferguson (112) and, in Alaska, by Stephens (222). Buzzard (40) describes the shared purchasing program in the University of California system, Hewitt (120) the thirty-year-old cooperative collection development arrangement between Duke and the University of North Carolina—Rutledge also describes this (200). Krueger (141) describes multitype cooperation in Illinois, which is successful in part because its LCS system provides excellent bibliographic control and in part because it allows local autonomy in selection. Deal (66) gives further information about the model criterion for this effort. Other successful programs continue in Colorado (201), New York (180), and the Five College group in Massachusetts (25).

These descriptions also suggest how and why the current efforts will succeed where earlier ones failed; as Sohn puts it, they allow individual libraries to maintain the independence of selection while knowing in considerable detail what other libraries are selecting (214, p.7). The emphasis, thus, is on coordination rather than coercion, the Conspectus and NCIP providing the means.

Not everyone is enthusiastic about cooperative collection development. Ballard has written against it on several occasions, most recently in *The Failure of Resource Sharing in Public Libraries* (17). His point is that no matter what librarians see as the value of so-called larger units of service, "the public has stubbornly insisted . . . on convenient access to books" (17, p.3). A book in the hand is worth two somewhere else in the network. Other librarians recognize that access is an unsolved problem. That cooperative arrangements do not save money is also widely recognized: we cooperate not for the savings but in order to extend our collections, to open up our libraries.

SELECTION, ACQUISITIONS, ALLOCATIONS

A major topic in previous years, collection development policies received virtually no attention in 1986. The Center for Research Libraries published its *Collection and Services Policy Manual*, which "represents the first time that all of CRL's policies related to collection development have been brought together" (49, p.2). Pasterczyk (188) described ways academic librarians learn about curriculum changes, showing that informal personal contacts with faculty are the most effective. Aguilar (2) analyzed circulation and interlibrary loan data to arrive at an understanding of potential demand for materials; his approach could be useful if we find complementary ways to track program changes and obsolescence in programs, subjects, and materials. Furnham (98) argues against using book reviews in selection and urges that reviews in scholarly journals undergo peer review before acceptance.

Schmidt found that there "appears to be emerging agreement upon the definition of acquisitions and upon the types of things that need to be taught and digested" (204, p.339). She also has a useful discussion of the virtues of publisher-based, as opposed to subject-based, approval plans, believing that the former more successfully free selectors from the mundane aspects of their work, at least in larger libraries (205).

A significant factor in selection decisions is the amount of money available. Genaway (104–106) takes a new look at the matter of allocation formulas and describes two of his own. The percentage-based allocation (105) divides the materials budget in academic libraries according to the percentages of an institution's budget spent on various academic departments. This is strictly an internally-controlled formula that ignores the costs of materials; it would work best, he feels, in two- and four-year colleges. Larger libraries require a more flexible formula: Genaway describes the *Q* formula (106), and Mulliner (177) reports on a similar one in operation at Ohio University. Replies to Genaway's articles by Susan Jacobson (129) and Wall (235) show that the he has not convinced everyone. The discussion and replies do, however, deal

clearly with two major considerations in devising allocation formulas: first, recognition and due consideration for the many internal and external details that must be factored in, and, second, the problem of finding a rational and convincing mathematical way to link these details into a formula that apportions the right amount of money for each subject.

ACCESS, WEEDING, PRESERVATION

Access, in the sense of ready availability of physical materials, must be a central concern in collection management. Two programs for document delivery were described (16, 67). Circulation practices and policies affect availability; the potential of automated circulation systems for permitting sophisticated variations in loan periods to improve access has not been fully realized. DuBois (77) surveyed a number of librarians about their circulation policies, especially in regard to lock-out features, and found that, along with considerable consistency among them, there was support for lowering the lock-out threshold. As a step toward creating practical and effective circulation policy models, Coady (55, 56) compared the rates of return for borrowed materials among different classes of users (students, faculty); different loan periods; and different subjects. McGrath (165) studied circulation data for its relevance to the question of decentralized academic collections. On a different aspect of access, Zeidberg (251) reported on the ACRL draft of guidelines regarding theft in libraries.

Weeding is both a practical matter and one of principle. Room for new materials is found by discarding or storing old materials, but the intellectual quality of our collections is also maintained by removing materials that are no longer worthy, or so some would argue. More immediately practical is the article by Lucker, Herzog, and Owens about weeding at MIT (156). There are three factors involved: space, intellectual relevance, and long-term value. MIT is a zero-growth institution; much of the collection covers subjects in which change is constant (and in which older information can be not just out-of-date but "wrong"); yet historical concerns are strong, and educational concerns are important. Weeding includes storage, conversion of print to microfilm, and discard as well as careful selection and a willingness to discard purchased materials prior to cataloging if examination shows an item is outside scope. This is an excellent analysis of a weeding program: succinct, thorough, clear, and thoughtful. Other articles in the same issue of *Science & Technology Libraries* take up other aspects of weeding, especially serials (71, 125, 207, 220). Elsewhere Line (149) cautions once again against too-easy reliance on citation analysis of obsolescence in making weeding decisions.

The last major issue covered here is preservation. As mentioned above, Lynch and Brownrigg (158) propose greater use of digitalization technology, but Calmes (43) reports that the National Archives reaffirmed the value of microfilm and archival-quality paper. Two major cooperative microfilming projects are underway, and McClung (162) reports on the cost study done for one of them. This is relevant for two reasons: collection managers need to determine preservation costs to

make realistic allocations; preservationists need to know the costs in order to find ways to reduce them. A "Worksheet for Estimating Project Costs" is provided.

The key work is Ross Atkinson's proposal for a national, cooperative, preservation program for filming that class of materials that will not be dealt with locally by individual libraries (11). His proposal is based on a "materialistic approach" in which the decision about what to preserve is based on materials rather than subjects. He argues that there are three classes of library materials, those that have great monetary value (class 1), those that are heavily used (class 2), and those that are of little monetary value and are no longer used (class 3). The first two will be preserved (or replaced) by individual libraries as part of their own prudent management practice. The last class, however, will be lost unless libraries work together to save it. Financial limitations and priorities will cause individual libraries to put their resources into class 1 and 2 materials. Child (53) offers further refinements and elaboration of these ideas as well as comments on practical matters of operation. As for the value of these apparently neglected class 3 materials, Atkinson makes a compelling case.

Conclusion

An appropriate conclusion is a reference to Swan's article, which reconfirms "our basic professional commitment to the flow of all kinds of 'information' without regard to its truth or falsehood" (223, p.44). We must accept the legitimate presence of truth, half-truth, untruth, and falsehood in our libraries and recognize that by providing access to the unpopular, false, or untruthful information as well as to the truthful, we are demonstrating our commitment to seeking truth. While we resist censorship, we must also be alert to our own practices that result in narrower collections. Overlooking important materials, relying solely on mainstream publishers, buying only that which is most loudly or frequently demanded, avoiding the controversial—these are problems that only the individual selector can prevent. Our work to establish cooperative programs, expand and adapt technologies, and improve education enhances the work of individual selectors by improving their access to bibliographic information. Their access improves others' access: "It is this simple fact that we are committed to the truth that makes it utterly necessary that we formulate our mission as librarians not in terms of truth but in terms of access" (223, p.52).

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The Year's Work in Serials, 1986

Tony Stankus

THIS OVERVIEW is based on personal examination of 102 items in the American professional journal literature. Most appeared in 1986, although some 1985 items actually distributed in 1986 are included. Many items bridge several topics, but each is discussed in terms of a single topical group for reasons of space.

AUTOMATION OF SERIALS PROCESSING

The computerization of serials control continues as the dominant theme in the literature, commanding a full issue of the *Serials Librarian,* guest-edited by Griffin (44). Most papers still stress the preparatory phase of allocating money and personnel, but there are more papers on functioning systems.

Zajanc (101) set out the principal planning concerns as the need to gather insights into what the manual systems did as well as to project what an automated system might do better or additionally. She favored more generalized screens for executing many tasks with the same journal record, screens that were easy for the patron to understand, and prompters in the check-in area that might predict which volume or issue would be coming next. Farrington's approach (33) mentioned many of the same points but had a stronger focus: clean up messy records now; make use of number tags or other tracings leading to more standardized records from LC, OCLC, or RLIN.

Heitshu and Quinn (48) describe a serials conversion project, done in cooperation with Michigan State and Wayne State, that offered three insights into the involvement of personnel. First, older workers are not necessarily more resistant to working in the new mode—attitude problems were found to be highly individualistic and not age-dependent. Second, any training offered by vendors or networks should be used. Third, a good project is not unlike a successful boot camp, where staff who "graduate" go on to promote successful automation projects at their new jobs.

McKinley (61), in the first of two articles describing developments at two California schools, however, counsels project managers to be sensi-

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tive to the clerical worker who has maintained the file in perfect order, even if by some peculiar rules that automation will now render obsolete. In this earlier paper, she reports the relatively novel idea of using higher-level, supervisory help for parts of the project. Whether due to the winning over of the veteran clerical staff or to the unaccustomed assignment of bosses to assembly-line work, the project at UCLA went very well, according to McKinley's later paper (62).

Large and admirable as these results are, they pale before the task that LC has set for itself. A progress report by Dobbs and Miller (30) describes its ongoing serials automation project. Interestingly, although LC had satisfactory trial runs with Faxon's LINX (commercially available) and UCLA's TPS systems, its decision was to use what had been learned and design its own system. As many as 120,000 records have been converted to machine-readable form, the bulk of them by contract workers operating during nights and weekends. Peritore (72) dealt with a much smaller collection than either LC's or UCLA's but learned much from the example of UCLA's law school. She found that a turnkey system, INNOVACQ, gave her many of the same benefits as well as a surprisingly faster conversion time.

Not all reports dealt with all system phases or functions. Bostic (12) did a comparative study of automated claiming features in a number of vended systems. While all systems mentioned received favorable comment, she was particularly impressed with NOTIS. Sabosik (80) describes the efforts of the Serials Industry Systems Advisory Committee (SISAC) to develop and promote the use of machine-readable numeric codes on issues to hasten processing. These code markings would be similar to the ISSNs on which they are based but much longer for far greater specificity. Each segment of the code marking would have eye-readable data specifying year, date, issue number, etc. The goal is to facilitate identification, ordering, claiming, and other functions that regularly occur and to enable publishers to collect royalties for articles reproduced online or for other journal by-products. Clapper and Goessling(21) also describe these efforts with greater emphasis on the advantages of bar codes.

Vendors continue to promote new systems in the press while owners of their older systems complain of abandonment. Louise Diodato (28) sought to marshal arguments against what she felt was OCLC's overly precipitous abandonment of its mainframe-based serials control subsystem, and Folsom (39) reported strong negative reactions. Meanwhile Walbridge of OCLC (98) was describing her firm's replacement, the SC 350, a microcomputer-based, local serials control subsystem with links to the LS/2000. In all fairness, Walbridge's favorable description is independently seconded by both Swanson (90) and Riddick, (76) neither of whom is an OCLC employee. Serials librarians following this furor, which eventually won some delays and concessions from OCLC for the offended institutions, might wish to familiarize themselves with the broad issues of abandonment by vendors and the complexities of switching vendors. A three-part series by Hegarty (47), Matthews (64), and Burke (18) will aid them greatly.

Apart from this particular controversy, OCLC's new system is an important lesson in trends. With very large computers, amassed expertise, and usefulness as a clearinghouse, centralized network systems still make sense as a source for downloading high-quality records at the beginning of a local automation project. They can also be a continuing source for high-quality records of newly added titles and location data for ILL. But day-to-day functions of check-in, claiming, routing, binding, etc., are more appropriately and less expensively handled by compatible microcomputers at the local level. In one of the few papers to deal with costs, Riddick (77) analyzes the variables in switching to local systems. For those without the time to read all these papers, Maruyama's critical overview (63) of serials automation's advances to date, including negative or only dubiously improved situations, is recommended. A shorter note, done with the wit for which Paul (71) has become famous, reviews the field more casually and says *several* nice things about automation.

Serials librarians who wish to review the literature of the last several years will be greatly helped by the bibliographies of Buckholz (16) and the team of Fleischmann and Houghton (37). The reading of the latter, more extensive work is lightened by clever annotations that get to the gist of the item.

Cataloging Serials

Clearly, the dominant concern of serials catalogers in 1986 was the handling of title changes or variations in other significant descriptive components. Many papers had a strong historical flavor, and a few took clear-cut stances on proper current procedure.

Serials catalogers owe a good deal of their job security to title changes, as Cummins (26) notes humorously. Khosh-Khul (54) calculates that 54 percent of the journals he studied underwent significant descriptive change within ten years of their founding, and 20 percent of the subgroup with changes had four or more! Arcand (5) notes that the library's clientele deserves the effort that catalogers make to keep up.

Three historical accounts view the rise of current procedures. The team of Cole and Madison (22) see the role of sponsoring or endorsing organizations as important, mentioning IFLA and the ISBD, ALA and AACR2, CLR and CONSER, OCLC and CONSER, and finally the CONSER backers and LC. McIver (60) focuses more narrowly on the changes in the two versions of AACR to date, and suggests that, in part, automation made the more widespread adoption of version 2 palatable despite its unpopular successive cataloging requirement. She wonders how long it will be before a new category of discontent arises that will encourage an AACR3. Sadowski (81) sees the last decade as a series of contests with distinct winners. Title main entry beat corporate authorship. Place of publication won out over corporate author as principal modifier. Fully spelled out titles were preferred over initialisms. Microforms lost out as unique documents but got the consolation prize of a special format note.

Whatever the perspective, few authors like successive entry catalog-

ing. Two papers opened a debate on alternatives. Cole (23) opted for maintaining the most complete bibliographic history with the earliest entry, saving the cataloger time. Zajanc (102) countered with the emphasis on latest entry, citing less confusion during journal check-in and ordering. Echoing McIver, she feels that computer-assisted recataloging reduces the drudgery.

Union Lists and Network Cooperation

Bloss and Kelley provide similar perspectives on cooperation between libraries and success in union listing. Kelley (53) emphasizes the general theme that networks tend to promote three types of improved serials control and sees pressures for uniform description and holdings statements as part of a drive for control of cataloging quality. The creation of union lists of serials is the ultimate form of inventory control cooperation. Her work suggests that the pressure individual libraries put on themselves to measure up to their peers has improved not only network quality but also control of serials at each institution. Two reviews by Bloss (9, 10) suggest that there is a mutual reinforcement of improvements in various components of serials listing and of willingness to build union lists. As descriptive cataloging becomes more uniform, it is easier to assemble entries for the same journal in one place in the union list. Serials catalogers, seeing this use of their work, continue the quest for more agreement.

Two articles report on current activities. Hoffman (49) describes a drive to build a union list for the estimated 10,000 newspapers issued from Pennsylvania presses over the centuries. While some work began with the sizable collections in libraries that initiated the project, a surprising number of holdings are unique to some remote locations. Catalogers literally bring their terminals with them, as cooperating local librarians present their newspapers for description and holdings statements. Battistella and Rogers report on the Alabama Health Libraries Association's grass-roots campaign for a union list begun with a survey of ninety libraries that led to twenty-six responses and eleven willing participants (8). Seeking a vendor, they found a regional partner in the University of South Carolina. While the union list project remains vulnerable through its dependence on volunteer staff, its biggest threat may be increased enrollment by Alabama libraries involved in larger network schemes.

A paper by Sapp (82) and a third paper by Bloss (11) call attention to the importance of holdings statements in cataloging and for union listing. Sapp's work stresses the American experience with an interesting account of the growing consensus on the usefulness of the MARC format for specific information. Through Bloss' report we learn that a surprising number of European associations, committees, and standardization agencies are studying the problem. While there is still some allowance for variation, it seems likely that holdings statements will extend from the initial volume number and year to the last. When libraries do not wish to inventory the run exactly, they can offer a single-digit "precision code" ranging from a very incomplete journal holding rated 1 to a virtu-

ally complete one rated 5. The same title held in different formats may have a single entry with separate strings of holdings information for each medium.

Serials Subscriptions in Libraries

Apart from a solid but fairly neutral survey of current serial selection practices by Buzzard and Whaley (20), much of the literature of the past year had an "every cloud has a silver lining" theme. Contributions almost always dealt with the necessity of cancellations in light of rising prices and diminishing funds but noted that much was learned in the process about librarians' collections, clientele, and assertiveness or lack thereof.

On the somewhat more optimistic side were three papers by Miller and Guilfoyle (66), Almagro (3), and Neame (69). The first describes assigning scores to various components of a candidate journal's attractiveness: indexing, ILL demand, relevence to programs, etc., then presenting and manipulating them by means of electronic spreadsheets. They believed that the businesslike appearance of the final product was representative of the thorough and professional way in which a decision to approve or disapprove a subscription was being handled. Almagro presented a case for what might be called strategic planning, suggesting that general trends in research, the economy, and pricing histories all bore watching. With cooperation from subscription agents in her ongoing analysis of subscription lists by discipline, she suggested that this kind of constant attention readied one not only for expected cuts but for unexpected bonanzas as well. Neame's paper suggested that librarians have a particularly effective tool in cost-per-use data when dealing with hard selection or cancellation choices. The underlying argument is that librarians are professionals with special skills who are in their proper arena when they assume control of the collections.

On the clearly pessimistic side were papers decrying the unpleasantness of cancellations. Bousefield (13) disliked her role as bearer of bad news; in response to cuts, she endured expressions of violated territoriality and questions about fairness. A frustrating situation arose when library liaisons pointed out underused titles that might be canceled. The resulting attention stimulated use, making cancellation unworkable, but then another journal had to be identified for cancellation in order to meet budget requirements. Goehner (41) described a situation where a special remedial budget fund for monographs had to be raised because of the faculty's unwillingness to redress a steepening imbalance in favor of journals.

Two papers countered the notion that the science community is insensitive to the burden its journals impose on the limited campus budget. Virgil Diodato (29) suggests a series of questions for screening titles when both the original Russian-language science journal and its translated counterpart are on subscription lists. He discusses the frequency of this double expenditure and draws a number of comparisons about the currency and quality of the two versions. Stankus (87) suggests that holding expensive specialty journals for faculty who no longer bring in

grant dollars through an active research-for-publication program is untenable. Data suggest that the publication careers of scientists at liberal arts colleges can be safely pronounced dead if more than four years have elapsed since publication of their last paper.

Westbrook (99) reports an excellent study of shelf space savings through a determination of how many similar reference series (almanacs, encyclopedia yearbooks, directories, news service summaries, etc.) must be on the shelf in order to provide a good measure of coverage. She suggests retaining only a few back years of series with current information value while giving competitors whose strength lies in historical data more representation. This is a thoughtful article on a category of materials not subjected to much study.

Differential Pricing

Reading the papers in this section is not unlike listening to the sordid proceedings of a divorce trial where the accusations start out in general terms and then proceed to sorry particulars. Taylor (91) suggests that price of subscriptions is the fundamental reason journal publishers and libraries cannot get along. Horn's data (50) suggests that the money spent on science journals is truly outrageous. Lenzini's data (58) go further, showing that European science journals are the worst. Everyone seems to feel that British publishers were caught flagrante delicto this year, but some of the Germans are also suspected. Some papers are primarily analytical and others, primarily emotional.

The basic complaints are two: American libraries are charged inordinately high subscription prices by foreign publishers, prices that do not reflect reasonable postage and handling charges; and publishers are eliminating subscription agents, who often negotiate on behalf of subscribers, thereby forcing American libraries to subscribe directly with foreign firms. As part of a continuing study, Astle notes that British publishers are moderating their rate of increase from year to year but that American subscribers, for the same titles, are still paying about 40 percent more than British subscribers and about 18 percent more than other foreign subscribers (6). Houbeck (51) suggests that British journals are priced not so much on the basis of costs as on what the market will bear. Houbeck also demonstrates that by several measures of quality, British journals rate very high, making them less disposable than price-minded librarians would like. Tuttle (93, 94) also analyzes the situation, with exceptional virtuosity, playing the devil's advocate for the accused British publishers in one paper (in *Library Acquisitions: Practice and Theory*), then counters many of these arguments in another (in *Library Resources & Technical Services*).

The situation of some subscription agents who feel threatened is treated in an account by Dorn and Maddox (31) that is part of a report by Bullard (17). A surprisingly deft response to some of the complaints noted by Bullard is found in DuMond's defense (32) of his employer, VCH, a German science publisher who has set up an American office to take direct orders and who has recently had poor relations with Dorn and Maddox' employers.

By far the most explosive indictment of European publishers and the librarians who are alleged to give in to them is in an extremely forceful paper by White (100). His main points are that European publishers have been charging outrageous prices to American libraries and that, symptomatic of their general spinelessness, librarians have been paying them. He ventures that the situation is laughable in that European publishers need American library subscriptions badly, so that if American librarians would only tell their science faculties that the library can no longer provide these journals, and cancel en masse, the publishers would cave in.

White's thundering paper struck an amazingly responsive chord among many librarians. A selection of responses includes Bratton (15), who emphasizes that American publishers charging libraries more than individuals should also be rudely awakened; Hauptmann (46), who suggests that Americans increase their rate of journal cancellations, there being far too many journals already; and Roe (79), who says that librarians may have been far too quick to judge new journals as essential. Stankus, dissenting, argued that White overestimates the usefulness of European dependency on the American library market in that American scientists have an offsetting dependency on these journals as research outlets (89). Any actions against European publishers could lead to a devastating boycott of American manuscripts. Rather than annoying our science clientele in an attempt to impress them with our toughness, our efforts should show that for a percentage of grant monies, they can be served better.

Serials Work Abroad

Serialists abroad enriched our understanding of operations in their individual countries and contributed to the general body of practice and theory. In describing their operations Pilling and Wood (73) and Rodgers (78) show restraint and modesty, and yet there is much about which to be frankly proud. The British Library Lending Division, described by the former team, treats an operation whose holdings and service area are truly global. Its 89 percent ILL fulfillment is world-class; it also reaffirms some seemingly universal laws of usage. Despite the enormous variety of serials available to fill requests, a core of about 20 percent satisfies 80 percent of the requests, a result as valid in Pittsburgh as at Boston Spa, England. There is an unwarranted humility in Rodger's account of the decade-long history of the University of London's union list. It strikes this reviewer as something akin to the miracle of Dunkirk that colleagues at sixty campuses, with 88,000 titles and 155,000 holdings statements, could meld a workable tool on microfiche with so little centralization and funding.

Financial stringency is a central theme in this cosmopolitan literature. In the newest of a series of reports on Canadian library serials Preibish (74) describes growth, primarily in Ontario, and either steady state or modest declines elsewhere. One remarkable fact in this update is that for 1983–84, the Canada Institute for Scientific and Technical Information was *the* largest ILL provider among all North American ARL libraries.

Segal (83) reports on the necessity for subscription cancellations at Ben Gurion University in Israel, providing an excellent overview of the literature. She makes note of the multilingual problem that Israel shares to a degree with Canada and much of the world outside the U.S. The primary focus of a paper by Conochie (24) on the situation in Australia is on the desire for standardization necessary for good union listing and on early attempts at automation. A much brighter picture appears in the rise of the Australian Bibliographic Network (ABN), which is modeled on the Western Library Network, uses some of its tapes and experiences, and has been working hard on authority control. Shipping serials is basically a problem of geography that Australia shares with far less developed nations.

Problems of serials management in developing nations received extensive treatment. Papers by Garg and Gupta (40), Nzotta (70), and Agumanu (1) outline common themes on different continents. Geographic isolation, shortage of foreign currency, unreliability of postal or banking services, lack of indigenous publishing, and low regard from some administrative authorities all combine to make operating continuously functioning serials departments and collections very hard. But there is a remarkable frankness and determination expressed in these papers, and should resources become available, serials are likely to be well managed. A high-quality analysis of use was done by Sridhar (86); it has implications for any thinking serialist in the sci-tech area.

Subject Collections

It is a pleasure to acknowlege the growing number of subject-oriented collection development papers in the serials literature. It is sometimes mistakenly assumed that serials librarians are only concerned with processing serials. While efficiency concerns are never misplaced in the field, the inner development of subject expertise among our colleagues deserves a forum in the journals that they read for more narrowly technical concerns. Nine papers, by Allen (2), Anderson (4), Boyd (14), Burns (19), Dalton (27), Florance (38), Morehead (67), Spurlock and Kovacs (85), and Unsworth (95), cover a broad range of special topics from animals and veterinary science to the military, the peace movement, and health-related sciences. This section requires virtually no annotation—the titles say it all. A special note of congratulations is warranted to Joe Morehead, the government literature expert, on his collected works. Serials librarians are well served by his exceptionally interesting and informative papers. We also commend to the reader's attention the many columns on individual journals or regional groups of journals featured in sources such as *Library Journal* and *Serials Review*.

Serials Service to Patrons

Three themes dominate papers on the public-service aspects of serials work: improved subject access, the benefits of close cooperation between serialists and other types of librarians, and the need for more—not less—patron service in light of improved subject access.

Cornog (25) suggests that the computer revolution, which many fear

will outdate the print journal, may in fact stimulate the use of traditional journals through the more timely production of better finding guides. Hard-copy indexes, abstracts, and online bibliographic databases improve all the time. Coverage of current journals expands annually in most services, and retrospective addition of back years to computerized files continues. Librarians will have much to say in coming years about the optimum mix of print and electronic services through their budgeting choices, based—Cornog hopes—on what they see as their relative usefulness to patrons.

Subject access may be improved when subject reference librarians have some say about whether hardbound continuations or special issues of journals should be treated as books or journals. While the focus of a paper by Ferrall and Pinckard (36) is on the degree to which contents are analyzed in the catalog, they discuss other issues, such as matching choice of entry to treatment in indexing/abstracting services, comparing shelf location of books to that of journals, and determining the extent of allowable circulation, which are all handled collegially at Arizona State for the benefit of the clientele.

Two articles highlight cooperation between those using automated serials control systems primarily for processing and those using them for serials reference. Smith (84), at George Washington Medical Center, shows that little "decluttering" is necessary to creating a serials record display screen that is useful to serials workers and also comprehensible to patrons. He finds that an offline printout is easy to produce and to edit with a few commands that reduce unwanted detail. Von Seggern (97) suggests that from the very start, reference specialists whose work involves serials have a duty to participate in the design or negotiations for patron-friendly automated serials systems.

The basic theme of a paper by McBride (59) is that efficiency and tight control in processing need not interfere with maximum availability of serials. This paper appears to be an endorsement for on-site consolidation of much serials handling, housing, and servicing.

In an exceptionally thoughtful and sensitive piece, Gordon (42) suggests that there is a quandary involved in the ease with which online searches generate long lists of articles. Undergraduates in particular lose a sense of engagement with the literature. They cannot notice other pertinent entries serendipitously when they deal with an online display, as they might on a printed page of abstracts. In the name of economy, inexperienced scholars are asked to limit or sharply define their searches, and, perhaps unintentionally, their chances to develop a sense of place or larger meaning for the discipline, through their assignments, is limited, too. The special interaction that develops when beginning research students work closely with serials reference librarians in searches via print indexes is also lost if requests for computer searches are merely dumped in a tray for a third party to perform and send back through campus mail.

In a story of a frustration of good intentions, Bailey (7) tells of the mixed public-service results obtained in a program involving the best available standardization and computer assistance. The idea was to

adopt nationally accepted versions of journal titles when reshelving those journals by title in a stack reorganization. The problems lay in the fact that, even within this earnestly designed program, a good feel for the idiosyncratic way scientists and engineers and their students recall journal titles and hunt for them in the stacks was lacking. It became apparent that a substantial segment of the students had not memorized the alphabet; that many scientists are so accustomed to ignoring prepositions within titles and thinking in abbreviations that they expect to find journals listed that way; and that the project's funding and staffing was insufficient, leaving separate sequencing arrangements to confuse the clientele further.

Stankus (88) argued that serials librarians must develop a sense of clients' locations on the life cycle of serials involvement and actively help them advance. Serials librarians have unique expertise to impart to clients at every career level from beginning undergraduate to mature scientist.

Serials Librarianship as a Professional Specialization

One of the ironies of this year's bumper crop of papers on serials librarianship is that many predict the demise of the field. Gorman (43) suggests that the rise of serialists as a separate subprofession resulted from historical accidents that no longer need hold sway. He favors abolition of professionally staffed departments arranged according to medium (e.g., serials versus books versus microforms) and offers as an alternative subject-focused librarians, handling serials as well as other subject materials, with a largely paraprofessional or clerical work force performing processing activities common to traditional serials, acquisitions, and cataloging departments. Largely because these workers tend to become thoroughly familiar with local automated systems, particularly when there is a prolonged conversion from paper to machine records, more of them will seek and win administrative jobs formerly given to professional librarians, as has been reported by Presley and Robison (75) at Georgia State. Lanier and Vogt (55), in a summary of the recent history of separate serials departments, echo Gorman's themes. The team of Tomajko and Drake (92) review advances in information storage and telecommunications that may relate to the demise not only of serials departments but perhaps also of many types of serials themselves, giving a Lancasterian interpretation of the present and future.

Yet, a counterview remains possible. Even as Leonhardt (56) counsels against considering serials unique, he gives a classic sociological description of a developed professional specialty: a corpus of handbooks and professional treatises; a family of committed journals (to which one might add *Serials Review* and *Technical Services Quarterly*); an established interest group within the omnibus, national, professional society; and a set of continuing education programs under that special interest group's control. Only the specialty certification is lacking. The need for professional-level knowledge and maintenance of a deeper interest in serials than generalists might sustain is shown by Katz, who gives a kind of insider's perspective on forecasting serials budgets (52). Veaner (96)

supplies a broader and deeper view of serials and serials work, suggesting that many subject fields will not be affected by technology. Perhaps the most balanced summation of the points for and against serials librarians as independent "form-of-library-material" department heads is found in Harrington (45). It is the one paper to read when a more extensive survey of the literature is not possible.

Miscellaneous Topics

A number of worthwhile papers defied easy classification within larger groupings. Lenzini and Horn (57) give a broad view of the entire serials world. The usual discussion of the journals explosion is convincingly documented, the effects of currency fluctuations are graphically depicted, and the effects of increasing automation are well handled. These Faxon representatives seem unthreatened by the wave of direct-order arrangements demanded by some publishers. Perhaps the firm's Publinx, a service that enables publishers to update prices and other information on their products, ensures them a measure of goodwill. Farrington (34) presents a balanced paper on the prospects of microfilm usage. Improvements in bibliographic control, physical quality, price, and ease of use seem to offset the immediate abandonment of this medium in favor of various disk storage technologies. As she notes humorously, even the literature has stopped trashing microfilm rooms.

Feinman's work (35) concerns the current options and cost/access trade-offs in the storage or disposal of older runs of library materials. This fine literature survey describes Adelphi's move to a storage building, and the constant monitoring required to ensure that remotely stored materials are not given this status unjustly.

Milkovic's work (65) is as thorough a treatment of binding as one finds in a single article. Serialists may be surprised at the amount of standardization in that industry and at how it is reflected in both slips and the final product. This final item treats an unglamorous but important part of serials work well.

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The Cataloging Half of Cataloging and Classification, 1986

Janet Swan Hill

THE TERM *cataloging* (as in Cataloging and Classification) may once have been a synonym for descriptive cataloging, but its current usage is much broader, encompassing the group of activities that falls between acquiring an item and making it ready for patron use and including construction of library catalogs, as well as maintenance of those catalogs and their individual records long after the pieces have left the catalogers' hands. This definition of cataloging was used in preparing this review, except that serials cataloging is largely excluded, since it is treated in a separate review article.

INTERNATIONAL ASPECTS OF DESCRIPTION

Description is the cornerstone of cataloging and the aspect most consciously international, as illustrated by the development and existence of standards such as the International Standard Bibliographic Descriptions (ISBDs) and the Universal MARC format (UNIMARC), and even by the expanding use of the *Anglo-American Cataloguing Rules,* 2d ed. (*AACR2*) beyond the Anglo-American community.[1,2] The international context of cataloging was Cook and Anderson's focus. Although both authors considered the totality of cataloging, most of their attention was given to descriptive matters. The necessity of maintaining awareness of the international impact of national cataloging decisions as well as the advantages of adhering to international standards were described by Anderson, who also reminded her audience of the role that technology plays in a country's ability to take advantage of internationally available data.[3] Cook asserted that greater international uniformity of practice will provide better cataloging and information management to all sorts of libraries and identified major problems still requiring attention, including local and national variations from international standards, role of the main entry, vernaculars in cataloging, options in codes, increased use of multiple access points, sophisticated authority control, and improved searching techniques.[4]

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ANGLO-AMERICAN CATALOGUING RULES, 2D EDITION *(AACR2)*

Five years after *AACR2* implementation the number of "how-to-use-the-code" books and articles is on the decline and is almost exclusively aimed at particular groups of materials, the greatest activity being in the area of computer software—a type of material that has expanded dramatically in content, physical forms, and audience since the rules for cataloging it were drafted.[5,6]

Musavi's poll of catalogers and cataloging educators revealed that there is general approval of the code, although teachers are more enthusiastic about it than practitioners, and there is very little support in either group for the idea of an "AACR3."[7] Dowell and Paff's study focused on the impact of heading changes engendered by *AACR2* implementation on library catalogs, and found that it was close to Dowell's own preimplementation predictions, validating both the research method and the generalizability of results.[8] A third work used case studies to document overall implementation plans and organizational response to *AACR2* at 14 research libraries, providing illustrations of coping mechanisms that might be applied to similar future upheavals as well as evidence of the pervasive influence of a descriptive cataloging code and the types of costs involved in a significant change in such a code.[9] A report from the Library of Congress (LC) on the completion of a thirty-month project to bring headings on the LC MARC Books file into conformity with the rules served as another reminder of the enormous task librarians set themselves when they determined to implement *AACR2*.[10] Regardless of the difficulties that accompanied its introduction and application,[11] *AACR2* is an essential and usable tool whose virtues are appreciated beyond the bounds of bibliographic description.[12]

PRINCIPLES OF DESCRIPTION

Inspired in large part by the increasingly felt presence of online catalogs, with their possibilities for new levels and types of access to information, some librarians are embarking on a voyage of inquiry into whole sets of rules as well as into fundamental cataloging principles and practices. Carpenter and Svenonius' 1985 anthology *Foundations of Cataloging: A Sourcebook* is a precursor to this trend.[13] Although the book, which contains many of the historical works that have influenced the current shape and structure of our catalogs, was intended primarily for students, it is equally valuable to catalogers and administrators looking to the future, since an understanding of why catalogs have reached their present form is essential if the catalogs designed to replace them are to be at least as useful as those they leave behind. The type of research that is reflected by the literature of 1986, and which was continued through a conference on "Conceptual Foundations of Descriptive Cataloging," held in February 1987 at UCLA,[14] should partially answer Allen's concern that cataloging is being technology-driven, that automation has "ossified . . . thinking about the function and structure of catalogs."[15]

Olson's proposals for rule revision within *AACR2* Chapter 9 involve suggestions on small points as well as on the large issue of physical versus file description, which touches on the historical tension between describing the physical object or the intellectual entity.[16] The question of describing the work or the bibliographic entity can also be asked in connection with the work of Andre and others, who described an experiment that challenges the continued advisability of cataloging all serials by successive entry.[17] The same question was asked in the U.S. Newspaper Cataloging Project and resolved in favor of the work, as nearly as is permitted by the present rules, when it was decided to describe all physical manifestations of a particular newspaper title in a single "master record."[18]

Arguing that straight transcription from items being cataloged does not necessarily serve users well and that the arrangement of entries is of primary importance to the catalog as a whole, Perrault proposed a new "first commandment" of cataloging: CHOOSE THE MAIN HEADING FIRST and let all other decisions . . . flow from this choice and act to complement it." Perrault's text makes it clear that the commandment is not merely procedural, but would materially affect many rules within the present code.[19] The relevance of particular types of access points to materials usage was considered by Knutson, who, finding relatively little difference in the use of materials with a full component of descriptive headings and those cataloged with minimal heading access suggested that minimal-level cataloging could be a potential solution to the problems of "hard-core" backlogs.[20] The validity of traditional, prescribed information sources as sources for descriptive access points was tested by Svenonius, Baughman, and Molto as part of preliminary investigations into possibilities for simplifying current rules for choice of headings. Besides revealing that the title page remains the richest source of possible headings, the research showed that a staggering number of persons are named in many works as having some responsibility for the production of all or a part of its contents, but that distribution of these names among works suggests that "enrichment" of a catalog record with names found in such places as tables of contents and indexes is something to be approached with caution, considering the costs and number of titles that would benefit.[21] The value of retaining a system of formalized access points in a computerized catalog was the object of an investigation by Jamieson, Dolan and Declerk, who found that keyword searching does not provide the same quality of retrieval as traditional catalog access and that assignment of normalized authority-controlled headings continues to be necessary.[22]

Ling-Huey Jeng's application of artificial intelligence to bibliographic description takes research in another direction[23] and is both tantalizing and cautionary: the concept of the cataloger/cataloging rules combination as expert system opens the door to a wide field for further investigation, but the complexity of outlining something so small as determination of title proper shows how far we remain from realization of "automated cataloging."

COOPERATIVE CATALOGING

Lack of LC cataloging copy for certain categories of material was the impetus for a study conducted by LC and five research libraries, in which some processing bottlenecks were identified and the desirability of distributing LC's in-process records was demonstrated.[24] Share pointed out that the widespread practice of delaying original cataloging of materials by waiting for another network member to catalog them also affects record availability and strikes at the heart of members' obligations to their networks and one another.[25] Recognizing that titles for which copy can be found cost much less to process than titles for which original cataloging is required, Charbonneau wondered if items that were more expensive to process were also less likely to be used and if mere existence of bibliographic copy might therefore be used as one factor in selection decisions.[26] His study showed an insignificant difference between use of items that were cataloged originally and those that had been cataloged with copy, which should be heartening to original catalogers.

Quality of cataloging records was considered from several viewpoints. After examining the relative error rates between LC MARC records that began as Cataloging in Publication (CIP) records and those that did not, Taylor and Simpson found little difference between the two record types but were able to categorize errors and make recommendations for application of their findings to copy cataloging operations.[27] Wing described a computer-assisted method for evaluating member copy on RLIN, citing it as a processing time-saver, since catalogers could rely on the results of the study rather than attempting to evaluate individual records for each title in hand.[28] Saylor laid out quality control procedures in one regional network (OCLC Pacific),[29] and Sluk discussed improving the quality of records in a database through the OCLC Enhance program, describing the experience at the University of Pittsburgh Library as a positive one, for both morale and economics.[30] A different record-quality problem was the subject of Dwyer's unflattering description of UK MARC records on OCLC.[31]

A number of factors mitigate against the fullest realization of shared cataloging's potential benefits. Mandel and Rhee identified some of these, including duplication of cataloging effort by policy (e.g., LC rarely uses cataloging from another library); because of administrative barriers (e.g., the corporate barrier between OCLC and RLIN); and on account of technological shortcomings (e.g., consultation and transfer of records among bibliographic databases is not yet an operational reality).[32] Announcement of the success of the first operational function of the Linked Systems Project was a welcome sign of technical progress as well as a simultaneous indication of how much remains to be done.[33] The actual use made of bibliographic copy was the topic of a survey, conducted among members of RTSD's Copy Cataloging Discussion Group and reported by Hudson, in which the staffing patterns, training, evaluation, and performance standards for copy cataloging operations were addressed along with local expectations for authority work and the impact of online catalogs on copy cataloging management.[34]

AUTHORITY CONTROL

The advent of online catalogs, coupled with continued expansion of bibliographic networks, has caused the topic of authority control to move from a position of virtual invisibility a decade ago to one recognized as a major cataloging concern. Despite its new "high profile," however, authority control's purpose and scope is still unclear to many, and questions about the need for it in the computer age persist. Clack addressed many of these questions, including how much authority control is enough, how much can be accomplished on a shared database, whether the practice of establishing one preferred form of heading is obsolete, and whether the benefits of authority control exceed the cost, answering each in a way that makes clear her conviction that authority control will continue to be necessary.[35] In expressing his opinion that authority control is not obsolete, Runkle urged complete conversion of LC's catalog as the most useful and comprehensive source of headings needed by other libraries.[36]

LC's Name Authority Co-operative (NACO) Project, in which selected libraries contribute original work to LC's authorities database, continued to grow in 1986, accepting new libraries and extending its scope to include series authority records.[37] Development of NACO and plans for its future were described by Fenley and Irvine.[38] The experience of individual NACO libraries is not something that has been much talked about except among the libraries themselves, so Burger's assessment of NACO's costs and benefits to the University of Illinois at Urbana-Champaign provides a useful perspective on what is involved in this cooperative venture. Although he concludes that participation is worth the cost, it is clear from his description that most of the benefits are intangible.[39]

ISSUES IN THE MANAGEMENT OF CATALOGING

Catalogers are often stereotypically viewed as the group of librarians least amenable to change, but it is a view that would not stand up to scrutiny. The current cataloging world is epitomized by changes that catalogers have engineered, responded to, and embraced.

Hudson studied six university libraries that make use of local automation systems in cataloging and found that the areas most likely to be affected by distributed processing systems were authority control, catalog maintenance, locale of original cataloging, enhanced public access to materials, and quality control procedures. The author also observed that use of a local system for cataloging seems to allow more sweeping organizational and procedural changes than cataloging on a network, since reliance on a bibliographic utility limits some options.[40] Aroksaar considered other impacts and opportunities of online catalogs, noting that bibliographic networks are super word processors and library automation is a kind of robotic clerical help, but the greater ease and immediacy of correcting or augmenting bibliographic records in an online system allows reexamination of the cataloging "completion" concepts and a redefinition of the functional niches in the cataloging process.[41]

Minimal-level cataloging (MLC) was the focus of a symposium in the *Journal of Academic Librarianship* in which nine librarians wrestled with the issues of limited budgets and staff, intangible costs of reduced intellectual access to materials, local library needs versus the national interest, etc.[42-47] Although the national minimal-level standard was devised to provide guidance in cataloging materials that would not otherwise be cataloged, it is becoming clear that the definition of "what would not otherwise be cataloged" varies from institution to institution, and includes materials that libraries traditionally have cataloged fully but can no longer handle at that level. Many librarians are justifiably uncomfortable with the concept of MLC, and symposium authors were generally reluctant to declare it a satisfactory solution to libraries' inability to process all materials fully. Ross and West expressed part of the problem, noting that the items for which MLC will save the most time are those that need the most access.[48]

Increased availability of cataloging records and the possibility of using keyword searching to enhance subject access to U.S. depository materials caused a reevaluation of policies against cataloging them or against incorporating records for them into main library catalogs.[49] Curriculum collections also often received substandard cataloging or were excluded from libraries' main catalogs, a condition that limits their use and usefulness. Wilson, Finley, and Clark noted that administrative location of staff for cataloging these materials is less important than the ultimate location and completeness of the cataloging records.[50] *Cataloging & Classification Quarterly* devoted much of its summer issue to various aspects of the U.S. Newspaper Project, in which bibliographic and inventory control was exercised over a mass of information previously controlled poorly.[51-54]

Project participants developed standards for cataloging and coordinated cataloging at multiple institutions under diverse physical conditions (e.g., in attics) and remote from traditional cataloging tools. The project decision to use a "master" record for each title,[55] thus to include all physical manifestations of a title in one description rather than to prepare a separate record for each physical entity, inspired Graham to propose that a similar practice be adopted for cataloging microform reproductions—reducing costs and redundancy of description and enhancing catalog access.[56]

By contrast, rare books often receive cataloging that is quite detailed. Flannery described the increased hospitality of national and international cataloging standards to rare books description but noted that there is still work to be done, especially in the areas of defining a minimal level for rare materials and increasing cooperation among libraries.[57]

Backlogs are exceedingly common and absorb much of any cataloging manager's attention, but since—no matter how well they are controlled—no library can take pride in them, the professional literature contains little about backlogs per se. Instead, they figure as factors in discussions of other issues such as staffing, MLC, administrative reorganization, and bibliographic network membership. This pattern was unchanged in 1986, even though a few items on backlogs were pub-

lished. The rationale, described by Share, that lead to Rice's determination to eliminate its cataloging backlog (delayed cataloging is a disservice to users, delayed original cataloging is a disservice to network members)[58] is irrefutable, and the methods described may provide inspiration to many libraries. An interesting contrast was provided by Harcourt, who described a Title II-C grant project to eliminate a backlog of special collections materials. When the project, planned for two years, failed to obtain funding for its second half, cataloging of backlogged materials essentially ceased, since the library was not staffed to incorporate the materials into the general work flow.[59]

Catalog maintenance emerged from its position as a function of extremely low status to one of high visibility and increased importance. The evolution of catalog management and concomitant retraining of staff at the Iowa State University Library was described by Roughton,[60] and Fiste presented an overview of the kinds of decisions needed for making a transition between maintaining manual and machine catalogs.[61] A particularly imaginative catalog maintenance device, the OOPS command in LIAS at the Pennsylvania State University Library, has been used to detect and correct as many as 10,000 errors per year. The distribution of types of errors detected by catalog users is itself revealing: 57 percent, typographical errors; 35 percent, location or holdings problems; 4.6 percent, tagging errors; 3 percent, cataloging matters; and 4 percent, "other."[62]

Catalogers sometimes joke about cataloging records as the bibliographic "undead." Records do not necessarily lie peacefully in the catalog but instead rise from time to time, demanding attention—recataloging, reclassification, modification of holdings, conflict resolution, or revision of headings. Serials are especially prone to this sort of restlessness,[63] but it is also common for monographs. The advent of catalogs produced from machine-readable data has created a new and enormous population of finished records that need to be dealt with again. Titles cataloged manually in years gone by are begging to be converted to machine-readable form and libraries respond in a variety of ways. Much of the literature on retrospective conversion has been anecdotal and of limited generalizable application. Valentine and McDonald's report of a study of retrospective conversion at the University of Michigan Library, however, is carefully defined and described, so that it is possible to assess the applicability of particular costs and techniques to other situations. In addition to describing the calculation of costs for individual conversion steps, the authors suggest techniques for reducing the cost of a conversion project, including consideration of minimal "access records" for titles that are unavailable from an outside bibliographic database.[64] A symposium in *Library Hi Tech* primarily considered retrospective conversion to be part of an overall automation effort rather than a cataloging issue.[65] Asked to consider why retrospective conversion is so troublesome to automation planners, symposium authors proposed some interesting and useful answers: recon is considered boring and so generates little managerial interest,[66] a situation aggravated by the fact that those closest to the operation often fail to communi-

cate all their concerns effectively to managers, who then make bad decisions;[67] the occasion of retrospective conversion is used to correct all past cataloging shortcomings;[68] and libraries often fail to realize that recon involves more than just conversion of bibliographic data.[69] Libraries about to embark on retrospective conversion would be well advised to read the entire symposium and may also be assisted by *Library Hi Tech*'s annotated bibliography published in a separate volume.[70]

CATALOGERS

Without staff to carry out the work, library materials will not be cataloged. After years of suffering from various kinds of dismissal, most often taking the form of assertions that the need for them is diminishing and will eventually disappear, professional catalogers have recently come in for serious attention. A task force of RTSD's Cataloging and Classification Section (CCS), which is studying a number of issues related to the preparation and availability of professional catalogers, published a report in 1986. Surveyed employers reported that applicant pools for cataloging positions were disappointing in size and quality. A survey of course catalogs for accredited library school programs showed limited offerings in many schools and found indications of some replacement of basic cataloging instruction with more general course work in bibliographic control.[71]

Regardless of the extent of library school preparation, catalogers usually have to undergo a period of intensive training once they are hired, a time considered the equivalent of an internship or a second year of professional education. A program of the CCS Heads of Cataloging Discussion Group addressed the form and extent of such training.[72] Continuing need for review of original cataloging, both during training and afterward, was the focus of Weldon, who admitted its expense while supporting its necessity, and suggested possible compromise approaches to review, once training is over, that include self-review and a system of partial review.[73]

In a recently published list of professional functions in technical services, subject analysis was included, but description was not. In the author's words, "because descriptive cataloging is done according to a defined set of rules, a support staff cataloger can be trained to do both original and copy cataloging competently."[74] One can only assume that his acquaintance with just how "defined" those rules are is not intimate and that it has not occurred to him that given time, support staff can be trained to perform any professional library task, since time and adequate instruction are what is involved in obtaining a library degree and pursuing a career in any of its aspects.

In inventorying the impacts of automation on cataloging in academic libraries, Repp observed that automation has not changed either the purpose of the catalog or the cataloger's basic responsibility, stating that "The premise that the cataloging function in a given library can be successfully carried out by well-trained paraprofessionals using records created with the aid of artificial intelligence and brokered by a bibliographic utility is a fallacious one. The advent of automation has made the task of

the professional cataloger more complex, not less so.''[75] In her detailed examination of the impact of participation in a bibliographic network on catalogers, Hafter is less emphatic. She believes that cataloging was largely or nearly ''deprofessionalized'' by reliance on bibliographic networks for cataloging copy, decisions, and policies but that the condition may not be permanent. Citing the national visibility of catalogers' work and the replacement of local decision and review mechanisms with national ones in which catalogers participate, she postulates the emergence of a nationwide group of ''master catalogers,'' who possess some measure of automation expertise, political clout, and devotion to professional cataloging standards and who may be ''harbingers of the reprofessionalism of cataloging.''[76] In addition to her thoughts regarding the professional content of cataloging, Hafter's assessment of catalogers as moral, judgmental people with a devotion to standard setting and to doing the right thing at all costs offers fascinating reading, provides catalogers with food for introspection, and makes the book from which her article was excerpted well worth attention.[77]

CONCLUSION

Descriptive cataloging and cataloging management are emerging from a period of reaction and assimilation, and the real impact and potential of recent developments is beginning to be investigated. Bibliographic control, and therefore cataloging, is at the heart of librarianship, and we have recently seen how a change in descriptive practice can affect the entire profession. Current and future investigations into the foundations of descriptive cataloging hold the same possibility for widespread impact on librarianship as well as the potential for enhanced access to information and service to library users, which is, after all, our basic purpose.

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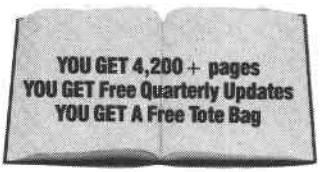

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Subject Access Literature, 1986

Karen Markey and Francis Miksa

SUBJECT ACCESS LITERATURE is increasingly complex, spilling over traditional boundaries and defying easy subcategorization. As such, it presents a case study of the very issue with which it is concerned, how to classify, categorize, or otherwise provide an understandable approach to the content of subject access literature.

GENERAL WORKS

The appearance of the third volume of the *International Classification and Indexing Bibliography, Classification and Indexing Systems: Theory, Structure, and Methodology, 1950–1982* (Dahlberg 1985) extends the bibliography of subject access. It joins two earlier volumes, *Classification Systems and Thesauri 1950–1982* (Dahlberg 1982) and *Reference Tools and Conferences in Classification and Indexing* (Dahlberg 1984), as part of a projected five-volume effort. The bibliography section of each issue of *International Classification,* also edited by Dahlberg, contains works published since the 1982 cutoff date.

A different kind of bibliographic source will be found in Kohl's *Cataloging and Catalogs: A Handbook for Library Management* (1986). As one of a six-volume set, it presents extracts of quantitative research findings from 807 articles in thirty-four journals covering the period from 1960 to 1983. This volume is divided into two parts, "Cataloging" and "Catalogs." The first part covers various topics in classification, the second, various topics in subject catalogs. Within each part a series of topics is subarranged by type of library, with sections of the relevant research results extracted chronologically. Research articles appear more than once. This is a useful rendition of numeric research findings, especially if the reader simply wants the figures.

Two collections in the area of subject analysis appeared in late 1985. The first, *Theory of Subject Analysis: A Sourcebook* ("Theory" 1985), edited by Lois Mai Chan, Phyllis A. Richmond, and Elaine Svenonius, gathers in one place a set of significant theoretical writings. In a second volume, editors should consider adding selections by E. C. Richardson,

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Marie Louise Prevost, John Metcalf, Oliver Lilley, William Cooper, and Ingetraut Dahlberg, to name just a few.

The second collection, *Subject and Information Analysis* ("Subject" 1985) edited by Eleanor Dym, is very different from the foregoing, consisting of reprints from works sponsored by the University of Pittsburgh Library School: *The Encyclopedia of Library and Information Science, The Encyclopedia of Computer Science and Technology,* Martha Manheimer's *Cataloging and Classification: a Textbook,* and one other item coauthored by six faculty colleagues. The result is something of a hodgepodge, with no editorial transitions and some redundancy.

The second edition of Lancaster's *Vocabulary Control for Information Retrieval* focuses more on natural language rather than controlled vocabulary systems.

A final general work is *Organizing Information: Principles of Database and Retrieval Systems* (1985) by Dagobert Soergel. By any measure this is an elegant work, and it received the 1986 ASIS Best Information Science Book Award. Soergel abstracts general principles of information organization particularly applicable to machine environments and integrates systems and their use.

Organization and History

In the area of subject access organization and history, the literature has been strong, if not extensive. Dahlberg continues her outstanding "news" sections in *International Classification,* including calendars and periodic meeting reports covering the Fédération Internationale de Documentation (FID), the Classification Research Committee, and the Committee on Conceptual and Terminological Analysis (COCTA). In addition, the FID *International Forum on Information and Documentation* (1986) published a particularly valuable special issue devoted to the ninetieth anniversary of the FID. Articles by King (1986), Arntz (1986), and Keenan (1986) provide a wealth of information on the FID itself, its leaders, and its relationship to international methods of organizing information such as the Universal Decimal Classification (UDC). Other articles give details about past work, future goals, and the most important publications of various FID committees. While all are valuable, those closely related to subject access merit specific mention: Dahlberg (1986) ("Classification Research"); Gorkova (1986) ("Terminology of Information and Documentation"); Rajan (1986) ("Informetrics"); Karlgren (1986) ("Linguistics in Documentation"); and Coates (1986) ("Broad System of Ordering").

Ishiyama (1986) provides a cogent picture of classification development in Japan, including an excellent but brief summary of the general features of the Nippon Decimal Classification. Zeng (1986) provides a similar discussion of both thesauri and classification in the People's Republic of China, including excellent descriptions of both the *Chinese Thesaurus* and the *Chinese Library Classification.* Both of these warrant examination because they have benefited much from some of the mistakes of similar works in the West.

Holley (1986) provides an overview of classification theory and practice in the United States, discussing first three significant factors in American classification experience, open stacks, tendency toward uniformity, and pragmatic and theoretical bases of the two dominant classification systems. He then describes the general features of the Library of Congress Classification (LCC), the Dewey Decimal Classification (DDC), and the Superintendent of Documents system. Holley notes that shelf classification arose partly from a desire to provide patrons with better subject access, especially through browsing.

Classification Systems

Expansion of DDC system is the focus of Sharma's *Depth Schedules, Indian Philosophy, and Religion for DDC* (1986). Taking a cue from DDC, Sharma expands the sections 294.3 (Buddhism), 294.4 (Jainism), 294.5 (Hinduism), and 294.6 (Sikkism), and also 181.04 and 181.4 (the philosophy of these religions) to provide new schedules and a synthetic device for texts and commentaries. Other sources discussing the DDC include "Dewey Decimal Location Posters" ("Dewey" 1986), an article on stack location posters designed for black children as users, Cairns' (1986) account of moving the John Crerar Library to the University of Chicago, and Sapp's (1986) discussion of subject approaches to fiction. In the latter, Sapp discusses his concern that subjects in fiction are rarely handled adequately in shelf classification.

The Library of Congress ("Law" 1986) also issued an enumeration of class letters for the Law of Europe (KJ to KKZ). One special study by Vizine-Goetz and O'Neill (1986) shows the distribution of about seven million OCLC monograph records (about 80 percent of the total number of monograph records in OCLC—those which included LCC call numbers) over the LCC using the categories found in the National Shelflist project. General totals are given for each LCC letter (with E–F grouped together) and a sense of the findings for more specific categories and for categories over time are described. The totals are instructive for understanding LCC subject distribution in the OCLC database.

The Classifier's Guide to LC, Class H: Subdivision Techniques for the Social Sciences (1986) by Caster is a welcome teaching aid because Class H access is the most useful example for teaching the techniques of handling LCC. However, the examples, instructions for number manipulation, and the author's comments are all in the same typeface and size. Differentiation of these elements would have made the text easier to follow. Caster's book deals with notational manipulation, and not, strictly speaking, with subject subdivision, which requires a discussion of subject categories themselves. A larger issue, however, is whether it is a good thing to teach a classification's notation apart from its conceptual structure. Doing so perpetuates the notion that classification is notation alone rather than notation and conceptual categorization.

A short article by Rawles (1986) is relevant here, focusing on shelflisting practices in the Glasgow University Library. These practices are actually extensions of LCC practice (using their own notational system) and provide ideas on how to distinguish parts of classic works and differ-

ent editions of classic works systematically.

Several items address using DDC and LCC to enhance subject access in online catalogs. The chief effort in this regard is the DDC Online project (Markey and Demeyer 1986a), presented in a final report and summarized elsewhere (Markey 1986a–d; Markey and Demeyer 1986b). The core of the project was the construction of two experimental online catalogs for use in four selected library sites: (1) an online catalog with subject-heading phrase, keyword, and call number searching and (2) an online catalog with those same features plus DDC index and schedule entries. Two kinds of tests were conducted, one in which the same searches were conducted in each catalog, and the other in which different searches were conducted in each catalog. Analyses of data established that, while subject searches in online catalogs of either type alone are comparable, subject searches in online catalogs with both capabilities are measurably improved.

The possibility of enhancing online searching by using library classification was the topic of separate papers by Chan (1986a) and Williamson (1986). Chan noted that LCC is a natural candidate for online use because LCC call numbers are found on a greater percentage of bibliographic records in a large cataloging database. She pointed out that LCC has a relatively strong integrity of numbers, a large number of index terms (many of which are qualified in a useful way), and a large enumerative base that would aid searches that have a relatively specific scope. Weaknesses in LCC that would hinder its implementation in an online environment include the nonexpressiveness of its notation and a corresponding poor performance on broad searches, its inconsistent terminology and lack of complete indexing, the numerical addition features of its special tables, and most of all that, unlike DDC, its schedules are not in machine-readable form. Williamson (1986), following up an earlier paper (Williamson 1985) describes a test of LCC in an online environment similar to that of the DDC Online project. The core of her project is aimed at putting LCC in machine-readable form.

Oberhouser (1986) writes about the use of classification in online subject access in a more general way. After an initial section identifying classification systems already in bibliographic databases, he discusses the uses of classifications and required modifications to online systems.

Other classification schemes received scattered attention in the literature. Aitchison (1986) describes methods employed in deriving a thesaurus from a classification scheme using the Bliss Bibliographic Classification, second edition (BC2). Her work describes how two different thesauri for United Kingdom databases were constructed, but she also provides a tutorial on BC2, including its faceted structure and the nature of its terminology.

Chatterjee (1986) reviews the new English-language, medium edition of the Universal Decimal Classification (UDC-M) issued in 1985. He concludes that the new edition is enormously improved over its 1961 predecessor (the UDC-abridged edition) especially with the incorporation of several features that had been suggested and developed in the intervening years. He points out, however, that the new edition still strug-

gles with the issue of integrity of numbers and with its Western biases.

The use of the Colon Classification (CC) around the world is the subject of a survey by Satija (1986). Citing a paucity of sources, Satija examined a series of special studies that provided conflicting figures. The latest empirical figures for India showed that CC is in use in 69 libraries, mostly academic.

CC is also the focus of Gopinath's *Construction of Depth Version of Colon Classification—A Manual* (1986), where it is used as the basis for systematically constructing faceted classification schemes for special subject areas. His work follows Colon principles explicitly but has no clear introduction summarizing his exact intentions and procedures. Friis-Hansen (1986) writes about Ranganathan's work, including CC, when he assesses the conference devoted to Ranganthan's work held in New Delhi in November 1985.

Four authors writing in *Fontes Arts Musical* reflect on the revision proposal made in 1985 by Gen'ichi Tsuge at the Répertoire International de Litterature Musicale (RILM) Commission meeting in Como, Italy. Tsuge (1986) himself reiterates his conclusion that RILM ethnocentric treatment of non-Western music must be corrected if it is to be a truly universal scheme. He restates the need to provide area and time periods for such music instead of the single heading Ethno-musicology, noting the rise of non-Western musicological sources to more than 10 percent of yearly totals. Without revision, a distorted picture of worldwide musicological research will continue. Brook (1986) lists suggested RILM changes based on Tsuge's proposal, and Karpati (1986) follows with still other suggestions for ameliorating the situation. Schuursma (1986) takes another approach, suggesting that a better solution is to develop an authoritative thesaurus of established, worldwide terms to be used in indexing.

Classification Theory and Method

Classification theory and method covers a wide range of both specific and general issues. The purpose, and therefore the form, of classification is broached in an offhanded way by several writers in the midst of other issues. Gorman (1986) and Cook (1986) both raise the specter that American librarians must recognize that classification not only can be used in catalogs but that its form and function in such catalogs will necessarily be different from its use as a shelf arrangement device. As if to comment on the latter, Intner (1986) and Johnson (1986) both remind us of the difficulties of using classification for shelf arrangement, the one in the context of bibliographic instruction, the other in the context of contract classifying of books for other libraries. Comaromi (1985/86) touches on the purpose of classification in his remarks entitled "The Past Is Too Much With Us," when he correlates classification use with types of libraries.

Wolfgang Dahlberg (1986) claims that although the prevailing notion of order in the West is bound up with ideas of causality, necessity, and analytical reasoning, at least two other general notions of order also may be described—one based on ideas of possibility or final purpose, and the

other based on ideas of will and intensionality. In his view, conceptions of nature and culture (and, by implication, classification structures) must take into account all three ideas of order.

Beghtol provides two works. The first (1986a) applies the methods of text linguistics to classification schemes to denote the "aboutness" of documents. Her approach treats a classification scheme as a text interpretable in terms of cultural warrant. In the course of her discussion she not only describes text linguistics succinctly but also proposes some experimental tests of the methods she discusses. In her second work (1986b) Beghtol defines and gives the background and development of four different kinds of warrant (i.e., justification) used in the process of devising bibliographic classification systems: literary; scientific-philosophical; educational; and cultural. Her analysis merits the attention of every serious library classifier.

Mathematical methods in classification occupy two works—the selected papers of the mid-1985 meeting of the Classification Society of the Federal Republic of Germany ("Classification" 1986), and Shaw's (1986) study of document partitions. The volume of Classification Society papers will likely be intimidating to any but those versed in various statistical techniques of clustering and scaling. But they represent, along with the American *Journal of Classification;* the most substantive attempts at numerical modeling of clustering. The articles, grouped under the general headings of data analyses, concept analysis, numerical classification, structural modeling, and indexing language and applications, were given by researchers from a wide variety of fields. Of the ninety-eight papers given at the conference, only fifty-seven are provided here. Shaw's work focuses directly on document clustering, specifically on his attempt to determine how statistically significant document partitions (clusters that fall between critical similarity thresholds) are related to empirically significant document partitions (those that bring together documents relevant to the same query and separate documents relevant to distinctly different queries). In attempting to show the relationship between the two kinds of partitions, he confirms that they are related and proposes further study to obtain a theoretical explanation of the correspondence that has predictive value.

A comparative study by Eisenschitz and Crane (1986) shows the effectiveness of patent searching using keywords on the one hand and patent classification codes on the other. Conventional wisdom states that the former is more effective, but this study uses a measure that reaches the opposite conclusion. An item by Donnelly (1986) deals with classing works having pejorative and uninformed points of view with regular works on the same topics, e.g., placing works on "Creationism" in the same section as biological evolution. He proposes special locations for such works. His solution is debatable because one would eventually develop a parallel scheme (or set of subschemes) for disapproved works and it suggests an inadequate appreciation of point-of-view in a classification context, that it in fact amounts to a facet of a subject rather than the basis for subject grouping at higher levels. Small (1986) describes a process to generate summary-like narratives for groups of documents. The pur-

pose of the narratives is similar to that of a literature review, though in this case they are generated automatically. Classification techniques are directly involved because document clusters are derived by bibliometrically-based methods. Subject analysis is involved more generally because the goal is to represent "aboutness." The article is recommended not only for its description of techniques but also for the way it represents the extension of document classification and subject analysis in unexpected directions.

SUBJECT HEADINGS AND THE LIBRARY OF CONGRESS

The Cataloging Distribution Service (CDS) of the Library of Congress (LC) undertook a major research study of its subject authority products in 1985 ("Subject" 1986). The impetus for this study was the expected online availability of subject authorities at LC in early 1986. The results of the study were evaluated, and LC revised its subject authority products to include a fully cumulated annual edition of the printed *Library of Congress Subject Headings* (LCSH); a monthly update service in paper format (weekly lists); an initial subject authorities tape distribution; a weekly tape distribution service of subject authorities; and quarterly cumulative microfiche editions.

The tenth edition of the printed LCSH was published in spring 1986 (LC SCD 1986) gathering all subject headings published in the ninth edition and annual supplements through 1984. LC instructed users to consult both the 1985 annual supplement and the tenth edition of LCSH for the most up-to-date information ("Library of Congress Subject Headings" 1986). Changes to newly established subject headings are available by subscribing to LC's *Library of Congress Subject Headings Weekly Lists* ("Library of Congress Subject Headings" 1986).

In spring 1986, LC also issued LCSH in machine-readable form (LCSH-mr) in a base file of approximately 150,000 subject authority records in the USMARC format for authorities. A weekly tape distribution service provides subject authority records for newly established subject headings and changes to established headings in the USMARC format for authorities ("MARC Distribution Service" 1986). The library automation community has encouraged LC to issue an up-to-date LCSH-mr. The Ad hoc Subcommittee on Library of Congress Subject Authority Control, appointed by the Subject Analysis Committee (SAC), recommended that LC "distribute a machine-readable subject authority file in the MARC Authorities Format and provide periodic updates that are easily integrated into the base file" (ALA 1982, 3). This was reiterated at the 1982 Subject Access Meeting of the Council on Library Resources (CLR).

Subject authority records created after January 1, 1986, contain fields 670 and 675, identifying reference materials consulted by SCD staff when establishing new subject headings ("Citation" 1986). In June 1986, LC issued *Authorities: A MARC Format, Update 2* ("CDS" 1986), containing changes made to fields 072 (Subject Cataloging Code) and 073 (Subject Usage) to accommodate thesauri with a hierarchical struc-

ture such as Medical Subject Headings (MeSH) and the Art & Architecture Thesaurus (AAT), and changes to bytes in field 008 (LC Processing Services 1986).

Encoded in 5xx fields of subject authority records is a cross-reference structure that identifies "broader" and "related" term relationships between subject headings. "The coding of 'g' for 'broader' and 'n' for 'related' was based on the reference structure at the time LC internally converted the file. Because no intellectual evaluation of the references was done and because a new policy on making cross-references was introduced in 1985, these designations in many cases will be incorrect. The library does not plan to initiate high-priority projects to evaluate references ("Cross" 1986, 62). Vendors, bibliographic services, and libraries that incorporate LCSH-mr into their automated systems should heed LC's explanation of term relationships; that is, applying "broader," "related," and "narrower" term labels to cross-references may not correctly identify relationships between subject headings.

In winter 1986, LC issued a revised edition of *Subject Cataloging Manual: Subject Headings* (LC SCD 1985c) because more than half of the pages in the 1984 preliminary edition were revised and approximately 150 pages added. Important changes affect free-floating subdivisions and a new policy on making "see also" references altered many instruction sheets. The purpose of the manual, however, remains to assist practicing catalogers, reference librarians, and library school students as well as LC's own staff. The manual's availability is expected to "contribute to a greater conformity of subject cataloging practice among American libraries" (LC SCD 1985, ix).

Since early 1985 LC has converted UKMARC bibliographic records into USMARC records and offered these converted British Library (BL) records to subscribers in the United States. In response to questions about this conversion process, LC explained how it converted various UKMARC fields into their corresponding USMARC fields, including fields for PRECIS strings and subject heading fields ("MARC Update" 1986).

Legal LC Subject Headings: Weekly Lists (LLCSH-WL) are selected and compiled by Peter Enyingi ("Legal" 1986), Technical Services Librarian, Los Angeles County Law Library, from LC-produced weekly lists. Approximately 50 lists are produced each year and cumulated yearly, all in looseleaf format. The purpose of LLCSH-WL is to facilitate use of LC's *Weekly List,* and its scope is legal terms and other related subject headings ("Legal" 1986, vii).

Subject headings on nuclear power, arms control, and defense established by the Hennepin County Library and LC were compared (Berman 1985/86). Period subdivisions for LC's Soviet Union subject headings were proposed and justified (Studwell and Hamilton 1986). An editorial in *Wilson Library Bulletin* (Nelson 1986) chronicled correspondence between Sanford Berman, Cataloger at the Hennepin County Library, and Mary K. D. Pietris, Chief of LC's Subject Cataloging Division, in which Berman objected to subject headings that are racist, sexist, chauvinistic, jingoistic, demeaning, unclear, and simply wrong.

In response to Berman's pleas during the SAC meeting at the 1986 ALA Annual Conference and to letters from Berman's supporters, SAC established a new subcommittee to study current terminology in LCSH (Beall 1986).

Automation at the Library of Congress: Inside Views, published by the LC Professional Association, describes automation of bibliographic control, collections control and delivery, and reference services, and the library's pioneering efforts to apply new technologies to its collections and services. Miller (1986) describes how automation helped to produce the sixth through the tenth editions of LCSH, weekly lists, and quarterly supplements. Reviewing the findings of online catalog use studies at LC, Pritchard (1986) underlines the need for subject access in the Library of Congress Information System (LOCIS) and evaluates LOCIS' ability to provide users with effective subject searching capabilities and access to reference services. Pritchard cites difficulties LOCIS users must overcome—command language, absence of cross-references, and differences from browsing in the card catalog. Future improvements to LOCIS include a separate database to enable users to browse LCSH-mr and its cross-references, expansion of the amount of bibliographic data displayed on browse screens of name and subject headings, and a facility for writing specialized tutorials on LOCIS. Goldberg (1986), a LOCIS user from the Smithsonian Institution, compares LOCIS with the card catalog. He laments the loss of color to distinguish subject headings from other types of headings and lack of cross-references, and he decries the use of LC card numbers as the means of displaying retrieved records.

SUBJECT AUTHORITY CONTROL THROUGH LCSH

Runkle (1986) and Tseng (1986) advocate the use of LSCH-mr as the basis for subject authority control in libraries' online catalogs. McDonald (1985) cites three benefits of online authority control: to maintain the consistency and integrity of bibliographic data in the online catalog; to impose a known structure on the online catalog that facilitates retrieval; and to provide capabilities such as search-term switching, related term of displays, and global changes. Epstein (1986) enumerates three problems that individual libraries will encounter when adding subject authority records to their local systems: source of a base file of subject authority records bearing subject headings and cross-references for subject headings found in the library's bibliographic records; updating the local subject authority file; and problems associated with computerized validation of subject subdivisions.

McCombs (1986) warns that start-up costs associated with the creation of the initial authority file bearing subject headings and cross-references in a library's bibliographic records and the extra memory and disk space required for storing and indexing subject authority records are expensive. However, he feels that subject authority control is necessary "to fulfill one of the prime expectations of an online catalog—that it provide at least as much information or access as the card catalog" (McCombs 1986, 28).

An examination of subject heading practices in the card catalogs of

nine libraries in an urban, western New York county concludes that users are not missing cross-references in the online catalog because such references were not made or maintained in the card catalog. "The study found that only the three largest, best-staffed libraries (two academic, one public) made any serious attempt at subject authority control, but that not even these libraries provided the LCSH 'see also' references that are supposed to make specific entry and syndetic structures work" (Palmer 1986, 74).

Two libraries—University of Illinois at Urbana-Champaign (UIUC) and University of Wisconsin–Eau Claire (UWEC)—incorporated subject authority records from LCSH-mr into their local library systems. Romero and Wajenberg (1985) and Stevens (1986) describe problems loading LCSH-mr at these libraries and the subject authority functions now provided to library staff and patrons.

Researchers conducting a study of the relative value of keyword searching versus authority control drew a sample of 251 bibliographic records from the University of Western Ontario Library System's machine-readable cataloging records. The researchers found that approximately 70 percent of nonpreferred headings for names used as subjects and topical subject headings could *not* be matched by keyword searching and concluded that "a catalog without a cross-reference structure for variant forms of names and subject headings will give users inferior service. Keyword searching is a powerful retrieval technique but it cannot compensate for this lack of database structure" (Jamieson, Dolan, and Declerck 1986, 283).

Indeterminancy of an indexer's selection of indexing terms and of an inquirer's selection of search terms influence subject access to documents and document surrogates. Blair (1986) suggests that an inquirer begin a subject search with the selection of a highly relevant document already contained in the database in order to eliminate indeterminancy and improve success in finding additional relevant documents or surrogates. McCarthy (1986) suggests a similar strategy in which the online catalog produces a display of subject headings in a retrieved, relevant record and enables the user to view all other records bearing these subject headings. McCarthy offers recommendations for improvement of the syndetic structure of LCSH, subject searching capabilities in online catalogs, and communication between cataloging and reference staff.

Subject authority control was a popular subject at conference programs and discussion groups in 1986. The LITA/RTSD Cataloging and Classification Section (CCS) Interest Group on Authority Control in the Online Environment sponsored a discussion on it, at the 1986 ALA Annual Conference, in which a vendor representative presented an analysis of the LCSH-mr tapes and addressed some of the problems faced by libraries and vendors when implementing automated subject authority control ("Authority Control" 1986, 5). The Art Libraries Society of North America (ARLIS/NA) sponsored a symposium on "Subject Authorities Control" in February 1986 (Haskins 1986). Speakers addressed the problem of multiple subject authorities because bibliographic systems that support art historical scholarship will be accessible

through LCSH and AAT (Art & Architecture Thesaurus). Presentations will be published in 1987 in the ARLIS/NA *Occasional Papers* series (Muller 1987). At the 1987 ALA Annual Conference in San Francisco, four divisions are sponsoring a program on "Subject Authorities in the Online Environment."

This past year's published literature underlined the importance of incorporating LCSH-mr into bibliographic systems but acknowledged its expense. Bates (1986) and Cochrane (1986) present different approaches to incorporating LCSH-mr into online bibliographic systems. Bates proposes that the addition of LCSH-mr into systems be accompanied by the development of two system capabilities—an end-user thesaurus and a front-end system mind—that will enable subject searchers "to perform truly powerful, pleasurable, and easy searches" (Bates 1986, 374). Cochrane examines four areas of LC subject authority records—scope notes, cross-reference structure, subdivisions, and suggested class numbers—where improvements can be made on an individual library basis. "It will be up to each individual library to decide what kind of effort to expend to bring about needed improvements in the subject catalog" (Cochane 1986, 5). Self-help exercises are included to familiarize library staff with the procedures and work effort needed to improve areas of subject authority records and with the anticipated benefits such improvements will yield. Cochrane includes readings documenting the origin of many of these exercises from such writers as Prevost, Haykin, Angell, Chan, Richmond, and Daily. The approaches that Bates and Cochrane propose are different but complementary and could be combined in libraries' efforts to serve their users.

Subject Searching through LC-Based, Assigned Subject Headings

Few online catalogs and cataloging systems have been enhanced with capabilities to handle LCSH and its cross-reference structure, but most allow subject searching and browsing capabilities through subject headings in 6xx fields of MARC records. This section describes subject searching capabilities and subject searchers' experiences using such capabilities to access bibliographic records' assigned subject headings whose construction is based on LCSH practice.

The second edition of Chan's *Library of Congress Subject Headings: Principles and Application* (1986b) updates new developments in the principles and application of LCSH. A new section entitled "Library of Congress Subject Headings in the Online Environment" addresses questions concerning "the place of traditional subject headings in online subject retrieval, the desirability of subject cataloging changes, and the need for a reexamination of the Library of Congress system in view of subject retrieval" (Chan 1986b, xv).

Markey (1986e) drew up a wish list of capabilities from her evaluation of online catalog users' needs and experiences identified in the nationwide CLR-sponsored Online Catalog project. The automation subcommittee of the Music Library Association was charged with "articulating

the requirements for library automation that are particular to the access of information about music in any library and those that, while not specific to access to music materials, are still essential to them'' (Coral 1986, 14). The requirements impact files for authority records and bibliographic records in online catalogs and include indexing, searching, and displaying such records.

When profiling bibliographic record displays in their online catalog, library staff can test ideas from a compendium of full, medium, and brief bibliographic record displays that resulted from a Research Libraries Group-sponsored study (Crawford 1986).

Matthews (1986) suggests guidelines for labels, general text, instructional text, and screen layouts for authority records and bibliographic records in online catalogs. He includes a discussion and critique of subject heading displays when his suggested guidelines are followed and breached. Library staff at Trinity University responded to catalog users' need to retrieve recently published material on a topic by rearranging the library's Computer Output Microfiche (COM) subject catalog. Now, brief title records are arranged by date of publication under subject headings (Werking, Miller, and Whaley 1986).

The British Library Research and Development Department (BLRDD) earmarked 300,000 pounds for online catalog research over a three-year period beginning in October 1985. BLRDD invited individuals and organizations to submit proposals addressing five principal areas of online catalog research: systems design, impact studies on user behavior, impact studies on organizational change, visual browsing and associated ergonomic factors, and bibliographic factors (McLean 1986).

The development and evaluation of an experimental online catalog, named Okapi, was supported by BLRDD's online catalog research program. ''The development of search trees is one of the most distinctive features in the design of Okapi. . . . At each stage in a search Okapi makes use of a 'search tree' in order to decide what to do next. . . . The search tree is a set of paths with branches or choices, which enables the system to carry out the most sensible search function at each stage of the search'' (Mitev, Venner, and Walker 1985, 94). The search tree guides the searcher to one of several paths, each with its own branches and choices, depending on the searcher's exact match or partial match of subject heading words and titles (Walker 1986). Searches conducted through the user-friendly interface of FBR, the UIUC local system, resemble Okapi's search trees. If a user is not satisfied with records retrieved by the selection of subject headings and cross-references, FBR performs a keyword search of title words to find additional records (Cheng 1985). A description of Okapi's user-system interface underlines system characteristics, such as a user-guided command language, simple keyboard with function keys, and Soundex-type spelling correction that contribute to users' success. Observation of and interviews with patron searchers and analysis of patron searches were used to evaluate Okapi. Mitev, Venner, and Walker (1985) and Jones (1986) report results and recommended enhancements, including relevance feedback

using class numbers in retrieved, relevant records to find additional records, "intelligent" stemming of user-entered subject terms, and ranked output.

In the DDC Online project, Markey and Demeyer (1986a) analyzed failed subject searches by library patrons and staff using alphabetical searches of assigned subject headings. Only 28 to 29 percent of patron- and staff-entered terms matched assigned subject headings. Users' difficulties were attributed to incorrect punctuation, abbreviations, and hyphenation, and lack of consulting LCSH before or during a search. The responses underlined the need for related terms and cross-references in the online catalog.

An analysis of unsuccessful keyword searches on URICA, an online catalog at the Australian National University Library, resulted in nine categories of user errors, e.g., spelling errors, abbreviations, punctuation, random configurations, expletives, and run-on words (Henty 1986). DeHart and Matthews (1986) identified catalog department policies and practices with regard to DDC number assignment that will adversely affect the precision of subject searches and called upon catalog departments to reexamine their policies and practices.

Enhancement of MARC records through the assignment of additional subject headings, addition of books' tables of contents and indexes, and analytical cataloging was the focus of four journal articles. Knutson (1986) did not find a correlation between an increased number of subject headings assigned to books and the number of recorded uses of books. Disenchantment with LCSH and the implementation of an online catalog at the Australian Defense Library were two reasons why the library added terms from books' tables of contents and/or indexes. Approximately twenty-five terms per book were added; the average time to index a book was fifteen minutes; and the average time to enter added terms into the online catalog was ten minutes per book (Byrne 1986). At Purdue University's Seigesmund Engineering Library, staff manually scan, edit, and input tables of contents into the library's online catalog where these data are indexed and accessible. Users of Purdue's online catalog are pleased with the enhancements because they use terms "in current use in engineering, obviating the need to master the LC subject classification" (Posey 1986, 34). Researchers at the Santa Ana College Library, Santa Ana, California, found that 21 percent of a sample of 4,094 library books were multiple-work documents, i.e., collections or anthologies. They advocate analytical cataloging and cite its advantages, including avoidance of unnecessary purchases and duplication, full use of available resources, and time saving for searchers (Hoffman and Magner 1985).

Other Subject Access Approaches

The preface to the thirteenth edition of the *Sears List of Subject Headings* ("Sears" 1986) cites differences between it and previous editions: addition of class numbers to computer science and computer engineering subject headings from proposed changes to the forthcoming twelfth abridged edition of DDC; increased use of scope notes; merging of two

free-floating subdivision lists from the twelfth edition into one list and expansion of this list; and inclusion of "Subject Headings for Children's Literature" from LCSH.

A research project is in progress at Middlesex Polytechnic using the PRECIS Reference Indicator Number (RIN) file to increase the number of access points to bibliographic records and to provide structured browsing capabilities (Congreve 1986a, 1986b). Through the structure of the PRECIS RIN file, users of an online catalog are guided from their entered terms to preferred terms, and to narrower, broader, and related terms. The experimental system developed for this research project will be evaluated at Middlesex Polytechnic in 1987.

The associations among different PRECIS role operators were quantitatively analyzed by submitting input strings from 200 abstracts in the fields of taxation, genetic psychology, and Shakespearean drama, to the Chi square test (Mahapatra and Biswas 1986). PRECIS was chosen by the National Film Board of Canada as the method of subject access to the English and French national information system for Canadian audiovisual materials because it allowed for specific, syntactically meaningful, natural-language representation of subject content (Bidd, de Chevigny, and Marshall 1986).

Micco (1985) examined the *see also* reference structure of PRECIS, MeSH, and LCSH to develop the best possible structure for use in a fully automated thesaurus with mapped displays. A prototype interactive knowledge-based system is being developed by the Indexing Aid Research Project for computer-assisted indexing of periodical medical literature (Humphrey and Miller 1986). The system uses a frame-based knowledge representation language implemented in Franz Lisp and interacts with trained Medline indexers to produce a set of MeSH controlled vocabulary indexes for each document.

During the 1984 ALA Midwinter Meeting, SAC charged the Ad hoc Subcommittee on Subject Access to Microcomputer Software to propose guidelines on subject analysis and classification of microcomputer software. The report of this subcommittee presents five important guidelines: make full use of the access provided in *Guidelines for Using AACR2 Chapter 9 for Cataloging Microcomputer Software* (ALA 1984); if using the MRDF format, use LCSH for entries in the 753 field; mainstream software into subject analysis and classification; use the proposed subdivision "software"; and avoid assigning individual subject headings for the make or model of machine, programming language, or operating system used by the software (ALA 1986, 2).

Craven (1986b) presents the general principles and features of string indexing in a book entitled *String Indexing.* A survey chapter highlights different string indexing systems such as KWIC (KeyWord in Context), PANDEX, PERMUTERM, PRECIS, and NEPHIS (NEsted PHrase Indexing System). A case study of NEPHIS shows how it is used to create an index display. In a journal article on string indexing, Craven (1986a) proposes a coding scheme to indicate certain types of "nontree" structures in source descriptions in string indexing systems.

Austin (1986) responded to Borko's concept of a "dynamic library"

(1982/83) with a failure analysis of a free-text search that produced false drops and no relevant citations. He claimed that the assignment of controlled vocabulary terms to documents and subject retrieval through this vocabulary would have improved the search result. In a reply, Borko (1986) asserts that machine indexing is more cost-effective than manual indexing. He argues that machine indexing and relevance feedback can assist searchers to find additional relevant citations, and that searchers' time and cost involved in scanning and eliminating false drops from computer output is far less than is the time and cost involved in manually indexing these same citations.

Oddy (1986) reports that scholars from linguistics, theater history, American history, music history, and Afro-American history employed substantially different vocabularies to describe the content of turn of the century audio cylinder recordings.

LC's Visual Materials online system was inaugurated in November 1985 and superseded a batch system in operation since 1972 ("Visual Materials" 1986). Cataloging records for graphic materials and archival films will now be added to and searchable in LOCIS, and, for the first time, will be distributed outside LC. M/B/RS records bear LCSH and P&P records bear LCTGM headings. A separate thesaurus for genre and physical characteristics by M/B/RS and P&P is now under development. P&P enlists its own thesaurus *Descriptive Terms for Graphic Materials* (Zinkham and Parker 1986) for such characteristics.

Construction of the Art & Architecture Thesaurus (AAT) continued in 1986 and was marked by the development of a workable protocol to aid catalogers and indexers in applying AAT to their collections and representing AAT terms in MARC records (Barnett 1986). Six projects are now testing this protocol on collections of architectural periodicals, slides and photographs of Boston architecture, and films and videotapes on the visual arts. Giral (1986) will enlist AAT in a project currently underway at Columbia University's Avery Architectural and Fine Arts Library to create MARC records for 45,000 videodisk-based images of architectural drawings.

Markey (1986d) introduced a method for describing the subject matter of visual images to aid searchers regardless of their background and training in accessing and retrieving images, and based the method on a theoretical discussion of study of meaning or subject matter in art by the renowned art historian Erwin Panofsky. Shatford (1986) also relied upon Panofsky's levels of meaning in art as the theoretical basis for the construction of a faceted system for classifying meaning in pictures.

CONCLUSION

Two major characteristics are evident in the subject access literature of 1986. The most obvious is that activities and literature related to catalog subject access and the authoritative control of verbal terminology, particularly in online environments, is rich, concentrated, technical, and often based on empirical investigations. The cause for this seems obvious—the growing need to improve subject access in online catalogs and to improve the kinds of controlled vocabularies used for this kind of

work. In contrast, activity and literature in the area of classification seem overly diffuse in content, are often nontechnical, and only occasionally based on empirical investigations. This may be related to the difficulty of the subject matter or to a kind of tunnel vision that generates little more than statements of dissatisfaction with systems primarily used for shelf arrangement. Whatever the cause, this is unfortunate, but there is an indication that the situation is changing. Efforts to test the effectiveness of enhanced catalog subject access by using classification entries and techniques is evidence that bodes well for a new era.

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The Year's Work in Nonbook Processing, 1986

Nancy B. Olson and Edward Swanson

A GREAT DEAL of activity in processing of audiovisual materials was recorded during 1986. Much of it focused on computer files, for which cataloging rules were being developed. Subject access to all types of audiovisual material also received some long-overdue attention from a number of sources. Preservation, a sadly neglected area for these materials, was the concern of several articles.

STANDARDS

Standards for college libraries were approved in 1986 by the ACRL Board of Directors (1). Standard 2 states the collections "shall comprise all types of recorded information, including print materials in all formats, audiovisual materials, sound recordings, materials used with computers, graphics, and three-dimensional materials" (p.191). The standard later states, "Although audiovisual materials may constitute an important and sometimes sizable part of a library collection, it is neither appropriate nor possible to establish a generally applicable prescriptive formula for calculating the number of such items which should be available" (p.192), and goes on to explain how to calculate bibliographic unit equivalents for audiovisual holdings.

Draft guidelines for audiovisual services in academic libraries were prepared during 1986 (2). These included recommendations for acquisition and cataloging of audiovisual materials.

SELECTION

Problems related to selection and acquisition of computer files are summarized by Strauss (49), who mentions the lack of reliable information in advertisements, ordering problems, and difficulties of inspecting orders upon receipt.

CATALOGING

An interdivisional ALA committee continued to explore the topic of CIP for all audiovisual materials (54). Earlier discussion and recommendations focused on microcomputer software. The Library of Con-

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gress (LC) announced plans to begin its pilot project of providing CIP for computer files early in 1987 and asked for advice on publishers to be included in the project (9).

Problems of cataloging audiovisual materials continue to be addressed by Urbanski in her question-and-answer column in the *OLAC Newsletter* (53). Topics can be found easily since an index to the newsletter was prepared by Urbanski and Ferguson (55). Problems are discussed at the semiannual meetings of Online Audiovisual Catalogers' Cataloging Policy Committee (OLAC/CAPC) (18, 19). During 1986, CAPC discussed revisions to AACR2's Chapter 9, parenthetical qualifiers, and cataloging/coding/tagging of nonprint serials. They proposed addition of the general material designations (GMDs) *toy, art reproduction,* and (for Chapter 10) *art original.*

Cataloging rules, changed by the international Joint Steering Committee for the Revision of Anglo-American Cataloguing Rules (JSC), are published in LC's *Cataloging Service Bulletin.* Rule changes published during 1986 that affected audiovisual material cataloging (8) included added examples (6.1B1, 6.1G2); specific directions for cataloging nonprocessed sound recordings (6.4C2, 6.4D4, 6.4F3, and 6.7B7); directions for handling the date of recording (6.4F2); replacement of the rule for recording playing time (6.5B2); and clarification of the rule on number of sound channels (6.5C7).

Unpublished film materials and unpublished graphic materials were also addressed by rule changes (7.4F3, 8.2A2, 8.4A2, 8.4C2, 8.4D2). The recording of playing time for film materials was changed (7.5B2). Terms and examples for tactile and other materials for use by the visually impaired were added (8.5B1, 10.5B1). Examples were added for stereograph reels (8.5B2, 8.5C13, 8.5E1).

In 1986 LC issued rule interpretations on closed captioning for the hearing impaired (7.7B2) and on manufacturers' names and locations for artifacts and three-dimensional materials (10.4G2) (7).

The Music Section of LC reports its music cataloging decisions and answers questions about music cataloging problems through the *Music Cataloging Bulletin* (29). MARC music proposals and decisions also are announced there.

The MARC formats expanded as additions were made to the Visual Materials format in order to facilitate archival film cataloging (25, 26, 50). A major proposal to expand this same format for three-dimensional materials, developed during a meeting of library and museum representatives at LC early in the year, was under discussion (37).

Activity cards have caused headaches for catalogers. Patton reports they now have a "home" in the newly expanded Visual Materials format (OCLC's AV media format) (40).

Coding and tagging of examples from Olson's book *Cataloging of Audiovisual Materials,* 2d ed., presented in a supplement published in 1985, was reprinted late in 1986 with changes resulting from the expansion of the MARC format to accommodate all two-dimensional materials (34). Questions on coding and tagging of bibliographic records for OCLC are addressed in Urbanski's column in the *OLAC Newsletter* (53). Music cod-

ing/tagging problems for OCLC users are discussed by Jay Weitz in each issue of the *Music OCLC Users Group Newsletter* (56).

Intner was invited to address the OCLC Users Council in February. She reported on OLAC's purposes, goals, and activities (16). During the year OCLC named OLAC its official user group for catalogers of microcomputer software (38) and issued the first number in its new videorecording serial, *OCLC Report,* which included a tour of OCLC's card production facilities and a visit to the Library of the American Museum of Natural History, rich in photographs, films, and realia (30).

The long-awaited second edition of Smiraglia's *Cataloging Music* appeared late in 1986 (47). It includes extensive discussion of music cataloging as well as thirty-three examples with reproductions of the chief source of information for each. An article by H. Stephen Wright discussed analytic cataloging of individual works on music recordings versus cataloging the recording as a unit (58).

Berman edited an anthology on cataloging films and videos, microcomputer software, comics, children's materials, music, fine arts materials, government publications, serials, Spanish-language materials and, in its appendix, online databases. Subject access for each type of material was stressed (5).

Daily prepared a second edition of his work on organizing nonprint materials (11). In his preface he states "this book deals with library material either not considered in the new edition of the *Anglo-American Catalog[u]ing Rules* or covered by instructions suitable only for a large research library with time to spare." Given that premise, he does not follow AACR2 as closely as one might wish (e.g., performer information is given in area 3 for sound recordings, films are cataloged only under their titles, and liberties are taken with the specific material designation for videorecordings). The second part of the book could be useful for smaller libraries, as it contains tables of subject headings—Dewey decimal numbers arranged both numerically and alphabetically.

Microcomputer software (now called computer files) received a great deal of attention during the year, culminating in approval by JSC of a revised draft of AACR2's Chapter 9. Piele, Tuckett, and Nicholson asked "How will software be selected, acquired, cataloged, processed, stored, checked-out, repaired, updated?" (41). Kuhlman and Lee pointed out, in their article on databases and CD-ROM, "a new and more detailed kind of cataloging must be done" (20, p.760) Holzberlein prepared an extensive article on cataloging this material using the interim *Guidelines for Using AACR2 Chapter 9 for Cataloging Microcomputer Software* (1984)(14). Other articles to guide the puzzled cataloger were published by Olson (32, 33); Paden (29); and Polly (42). Terminology was addressed by Crawford (10) in his "Anyone for Optical Disques?" Olson published a second edition of her manual on cataloging microcomputer software (36), which includes fifty examples of cataloging (with the chief source of information reproduced for each) and extensive lists of LC subject headings and class numbers for computer software.

Urbanski reported a survey of NACO participants concerning their contribution of audiovisual headings to the LC Name Authority File (52). While a few contribute headings used on audiovisual materials,

many participants do not acquire or catalog these materials. Of those participants owning and/or cataloging audiovisual materials, few were aware of the need for standardization of audiovisual headings.

Dean reported on the National Plan for the Retrospective Conversion of Music, as reported by Joan Swanekamp at the 1986 meeting of the Music OCLC Users Group (12). Swanekamp traced the origin and development of the plan in the REMUS project, gave its current status, and discussed the future of the project. Olsen reports that the music libraries of the Eastman School of Music, the University of California at Berkeley, and Indiana University are completing a pilot cooperative retrospective conversion project involving 30,000 music titles added to the OCLC and RLIN databases (31).

In a paper on shared cataloging among research libraries, Mandel and Rhee investigated duplication of effort and limited availability of special expertise (24). They find most ARL libraries lack cataloging expertise in one or more needed specialties, including special formats.

The University of Oregon created a database of its sound recording and music score backlog. Using an IBM PC, they input composer, performer, title, record manufacturer's number, and genre for recordings; composer, title, performing configuration, and solo instrument for scores (51). Bellevue Community College (Washington) now has a *New AV Materials List* generated through the Bridge-It program, which allows users to download records from the Western Library Network database (13).

Classification and Subject Access

Leysen compiled lists of cutter numbers and subject headings for computers, computer systems, microprocessors, and computer programming languages (22, 23).

The problems of subject access to visual images are discussed briefly by Schwartz and Eisenmann in their review article for ARIST (45). Shatford suggests a theoretical basis for identifying and classifying the kinds of subjects a picture may have, as she discusses the meaning of a picture, the concept of the represented work, the questions "who, what, where, and when," and indexing principles for pictures (46). Markey introduces a method for describing visual images to aid searchers in accessing and retrieving images, whether photographic media or artifacts bearing physical images (28). Zinkham and Betz-Parker prepared an extensive list of terms useful for providing genre and physical characteristic headings for graphic materials (59).

After discussions and hearings, an ALA subcommittee developed guidelines on subject access for microcomputer software, recommending these materials be treated no differently from any other materials (4).

Bidd and others (6) assessed the use of the PRECIS indexing system by the National Film Board of Canada in a system called FORMAT, designed to "promote the use of Canadian AV materials by providing on-line and print catalogue access to comprehensive and accurate bibliographic information on these media" (p.177).

A program on "New Directions in Subject Access to Nonbook Mate-

rials'' was held in New York City during ALA's Annual Conference. Topics included subject headings at Hennepin County Library, Minnesota (Susan Nesbitt); PRECIS for subject access (Donald Bidd); subject access for music (Brad Young); prints and photographs (Elizabeth Betz-Parker); and iconographical research collections (Karen Markey). These speakers can be heard on sound tapes available from ALA (3).

MISCELLANEOUS

Deterioration of sound recordings, both microgroove disc and magnetic tape, under conditions of heat and moisture are discussed by Schuller, who also lists the general requirements for proper handling, storage, and preservation of these materials. He is cautiously optimistic about the future, because compact discs seem to be less vulnerable to deterioration (44).

The care of photographic collections was thoroughly discussed by Lawrence (21), who emphasized that organization of the collection is the first requirement for preservation.

Computer disks might be more durable than suspected, based on the experience at Mankato State University reported by Olson (35). Disks flooded with dirty water were cleaned, dried, and copied successfully.

Copyright, as related to videorecordings and computer files, is explained by Stanek (48). There is a need to be aware of these rulings as one might be asked to handle off-air or other copies of video programs and locally made back-up copies of computer files. Strauss (49) also addresses copyright problems related to purchase or duplication of back-up and multiple copies of computer disks.

Intner analyzed recent research in technical services (17) and found several projects related to audiovisual materials, including Nesbitt's comparison of LC subject headings with those used at the Hennepin County Library (Minnesota), Intner's analysis of nonbook cataloging, Jacobs' evaluation of the need for CIP for audiovisual materials, Curtis' study of online cataloging of audiovisual material, and the work done by Olson and Kimmel on an archive of programs from the television series, ''Mr. Rogers' Neighborhood.''

Jean Weihs, current chair of the Joint Steering Committee for the Revision of the Anglo-American Cataloguing Rules, received the Margaret Mann Citation in 1986 ''in recognition of her pioneering efforts to standardize the bibliographic control of nonbook materials and to promote the philosophy of integrated collections'' (27). Williamson pays tribute to Weihs for her many years of work in this field (57).

Nancy B. Olson, audiovisual cataloger at Mankato State University, received an award as founder of Online Audiovisual Catalogers. Intner summarized Olson's career to OLAC members (15).

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Mary Jo Lynch
Director, ALA Office for Research

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Library Preservation in 1986: An Annotated Bibliography

Carla J. Montori

THIS BIBLIOGRAPHY examines significant publications in the field of library materials preservation. By noting important events and tracing developing trends, it provides an overview of the field during the year.

The field of library materials preservation has excited considerable interest both within and outside the library world. This interest is reflected in an increasing rate of publication on preservation-related topics.

Research into the nature of library materials, the causes of their deterioration, and remedies for the problems caused by that deterioration continue. Development of an efficient, effective, economically feasible and environmentally safe means to deacidify paper-based materials on a mass scale was a high priority among preservation professionals. Parallel to the development of new methods of preserving collections was continued refinement and standardization of existing procedures, e.g., the 1986 publication of the eighth edition of the *Library Binding Institute Standard for Binding*. The new standard makes it easier for a library to use commercial binding as a preservation measure.

The problems connected with library preservation are vast and admit of no one easy solution. Institutions that plan and implement local preservation programs often find it advantageous to participate in cooperative endeavors as well. Cooperation for preservation can take many forms, depending on the parties involved, the problems being addressed, and the desired outcome. State preservation needs and the programs designed to meet those needs were much in the news in 1986. These programs are at various stages of development, e.g., New York state held a conference titled "Our Memory at Risk" to cap a three-year project analyzing preservation needs of its libraries and archives; New Jersey hired a preservation specialist to develop and coordinate programs and resources; and the University of Wisconsin proposed an ambitious preservation program for that state. The National Association of Government Archives and Records Administrators issued a report on the preservation needs for state archives, recommending a number of cooperative activities among the states.

Other cooperative programs strengthened and grew. Representatives

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from cooperative and regional centers met to consider ways to coordinate their various activities so as to increase the impact on the national preservation effort. The Library of Congress' National Preservation Program Office became more active, coordinating cooperative efforts and providing vital information.

Other countries' preservation efforts are gathering momentum also. 1986 saw key developments in international cooperation. The International Federation of Library Associations (IFLA) launched a new core programme in Preservation and Conservation (PAC) in April to promote development of preservation efforts in the world's libraries. The international focal point of PAC will be at LC, supported by several regional centers worldwide. The PAC program was initiated formally at IFLA's International Conference on Preservation of Library Materials, one of a number of international meetings in 1986 with a preservation focus.

Cooperative efforts, important though they are, must be grounded in strong institutional programs. These programs identify and prioritize local needs and implement plans in the way best suited to local conditions. The reports, research results, and statistical analyses from the various institutional programs are an invaluable source of information. In 1986 the final reports of several studies undertaken as part of ARL's Office of Management Studies Preservation Planning Program appeared. These documents are valuable tools for other institutions planning or expanding a preservation program.

Increased activity in preservation has emphasized the need for education and training in the field. Seminars, workshops, and conferences on various aspects of preservation were held throughout the year, serving a wide variety of needs: some provided a general overview of preservation; some concentrated on very specific aspects of preservation management; and some gave participants training in hands-on treatment of materials.

The Preservation of Library Materials Section of ALA/RTSD remains a potent force in the preservation movement in this country. Its members form a dedicated (some would say obsessed) cadre, concerned with the problems of preserving the national intellectual heritage. The efforts of this group and others with similar concerns resulted in increased awareness of library materials preservation, not only among the wider range of library professionals but also among the general public. Preservation specialists must instill their sense of urgency in others, since only universal cooperation can solve the overwhelming problems of preservation.

The following bibliography does not include technical works, but does include English-language articles concerning the application of developing technology as a means of preservation.

General Works and Guides to the Literature

Clements, David G. "The National Preservation Office in the British Library," *IFLA Journal* 12, no.1:25-32 (Feb. 1986).

Describes the circumstances leading up to the establishment of the National Preservation Office of the British Library, and discusses that office's activities

in four priority areas: promotion of general awareness of need for preservation, provision of reference and information services, development of education and training opportunities, and support of regional and national cooperative efforts.

Dureau, Jean-Marie. "New Interest in Conservation in France." *CAN* no. 25:7 (Apr. 1986).

Discusses the increasing interest in preservation and conservation in France, where professionals from many disciplines are working together to address problems of preserving the national patrimony.

Fox, Lisa. "A Two-Year Perspective on Library Preservation: An Annotated Bibliography." *Library Resources & Technical Services* 30, no.3:290-318 (July/Sept. 1986).

Thorough bibliography of significant publications of 1984 and 1985 serves as guide to preservation field during that period.

Harris, Carolyn. "Preservation of Library Materials." In *The ALA Yearbook of Library and Information Services* (Chicago: American Library Assn., 1986), p.242-44.

Reviews the major trends and developments in the preservation field during 1985.

Lewis, Page. "OSU Preservation Administrator Making Past Accessible to Future." *Research Libraries in OCLC: A Quarterly* no.18:8-9 (Winter 1986).

Reports on presentation given at OCLC on the range of problems a preservation administrator faces and on the range of solutions at hand. Provides a good general introduction to preservation.

Morrow, Carolyn Clark. "RTSD Annual Reports, 1985/86: Preservation of Library Materials Section." *Library Resources & Technical Services* 30, no.4:439-41 (Oct./Dec. 1986).

Reports the year's activities within PLMS.

National Association of Government Archives and Records Administration. *Preservation Needs in State Archives.* Albany, N.Y.: NAGARA, 1986.

Presents the final report of a yearlong project to assess preservation needs in state archives. Analyzes current levels of activity, identifies the most pressing needs, and outlines steps for immediate action in several areas. Urges establishment of a cooperative national approach to finding long-term solutions to problems of archives preservation.

Preservation of Historical Records. Washington, D.C.: National Academy Pr., 1986.

Detailed report of a study of the condition and preservation needs of the National Archives and Records Administration's original paper documents. Considers environmental conditions, problems posed by paper deterioration, and options for reformatting to different media.

Research Libraries Group. *RLG Preservation Manual,* 2d ed. Stanford, Calif.: RLG, 1986.

The RLG Manual serves as a basic reference tool, especially for those involved in preservation microfilming. This update has an expanded section on microfilming guidelines and revision of the subject bibliography. Additions include guidelines on ILL packaging and photocopying, and a short new chapter, "The Book as Object."

"Resources and Technical Services Division—Goals for Action." *Library Resources & Technical Services* 30, no.2:164-65 (Apr./June 1986).

The revised and enlarged version of the goals includes a statement of respon-

sibilities and areas in which the division will take action.

Schmude, Karl G. "Conservation Developments in Australia." *CAN* no.27:4,5 (Oct. 1986).

Describes the growing emphasis placed on preservation by libraries in Australia, which was spurred by a fire at the National Library, creation of the State Conservation Center, and a number of proposals for collection surveys to assess preservation needs.

Schnare, Robert E. "Publications," *CAN* no.24:16–17 (July 1986); *CAN* no.25:17 (Apr. 1986); *CAN* no.26:18–20 (July 1986); *CAN* no.27:22–23 (Oct. 1986).

A regular feature that gives short annotations on publications in the field of preservation and in other areas of interest to preservation administrators.

"Strategic Plans for ALA and ACRL: A Comparison." *College & Research Libraries News* 47, no.11:709–12 (Dec. 1986).

Compares ALA's Strategic Long-Range Plan and ACRL's Strategic Plan. Of note to preservation administrators is the fact that neither mentions the preservation of library materials.

Swartzburg, Susan G. "News from China." *CAN* no.25:10,16 (July 1986).

Describes exchange visits of Chinese and American librarians and archivists, concentrating on the report of the American tour to institutions in the Peoples' Republic of China. The article gives some insight into preservation efforts in China.

Swartzell, Ann. "Preservation." *RTSD Newsletter* 11 no.1:6–7 (1986).

Discusses options for organizing and administering a preservation program in the library.

Swora, Tamara and Audrey Fischer. "Technical Services in 1984 and 1985: Micrographics, Optical Disk Technology, and Fair Use." *Library Resources & Technical Services* 30, no.3:183–217 (July/Sept. 1986).

Detailed bibliography of publications in three major areas of technical services that have a strong relationship to and impact on preservation.

Watson, Duane. "The Divine Library Function: Preservation." *School Library Journal* 33, no.3:41–45 (Nov. 1986).

This well-balanced article provides a general introduction to preservation. What makes it significant is its intended audience: the school librarian. The author points out that librarians who serve children play a vital role in educating citizens to the need for preservation of our national cultural heritage.

STANDARDS, GUIDELINES

Boyd, Jane, and Don Etherington. *Preparation of Archival Copies of Theses and Dissertations.* Chicago: American Library Assn., 1986.

Examines issues relevant to production of archival-quality theses and dissertations, establishes guidelines for quality of materials, and methods of assembling and binding. Has sections on computer printouts and nonprint media and a list of supply sources.

Byrne, Sherry. "Guidelines for Contracting Microfilming Services." *Microform Review* 15, no.4:244–64 (Fall 1986).

Clear and cogent explanation of how to set up a preservation microfilm program using a service vendor to do the actual filming. Includes excellent sample contract.

"Future SPEC Kit Topics." *Association of Research Libraries Newsletter* no.133:7 (Dec. 31, 1986).

Included among topics under development or consideration for ARL/OMS SPEC Kits are two of special interest to the preservation field: basic preservation procedures and rare-book room security and conservation.

Library Binding Institute. *Library Binding Institute Standard for Binding.* 8th ed. Ed. by Jan Merrill-Oldham and Paul Parisi. Rochester, N.Y.: LBI, 1986.

The worthy product of a joint effort by librarians and binders, the standard has been broadened to incorporate preservation considerations into its technical and materials specifications. Clearly written and illustrated, the standard makes it easier for librarians to use commercial library binding services as a means of collection preservation.

"NISO to Develop Binding Standard." *National Preservation News* no.6:6 (Oct. 1986).

Committee GG of the National Institute for Standards Organization (NISO) will develop a standard for first-time, hardcover case binding of books. Article describes current practices and factors the committee will consider when writing the standard.

Nugent, William R. "The Role of National Standards in Information Preservation on Optical Digital Disks." *National Preservation News* no.4:11–13 (Apr. 1986).

Describes the American National Standards Institute Technical Committee on Optical Digital Data Disks, X3B11, and its work on the development of standards to establish optical disks as a preservation medium.

Parisi, Paul. "The 8th Edition of the Library Binding Institute Standard for Library Binding." *New Library Scene* 5, no.1:5–6 (Feb. 1986).

This article should be read in conjunction with the eighth edition of the standard itself. It reviews the decision to draft an eighth edition, explains what the committee set out to accomplish, goes over substantive issues addressed by the committee, and explains the internal organization of the standard. Most importantly, it conveys the intense commitment by binders and librarians to solving common problems cooperatively.

Swartzell, Ann. "Preservation: New Standards and Guidelines." *RTSD Newsletter* 11, no.4:40–41 (1986).

Explains three preservation-related standards and guidelines with impact on the quality of library materials.

Zeidberg, David. "Guidelines Regarding Thefts in Libraries: A Draft." *College & Research Libraries News* 47, no.10:646–48 (Nov. 1986).

Draft guidelines for security policies and procedures both before and after a theft occurs. Includes model legislation concerning theft and mutilation of library materials.

Paper, Environment, and Collection Surveys

Chadbourne, Robert. "Declaring War on Deterioration: David Magoon Wants to Help Us." *Wilson Library Bulletin* 61, no.1:44–48 (Sept. 1986).

Looks at problems of book and paper preservation from the view of the private collector, collection curator, preservation manager, and archival supplies manufacturer.

DeCandido, Robert. "Out of the Question." *CAN* no.25:19 (Apr. 1986).

An illuminating discussion of the nature of light, harmful properties of ultra-

violet radiation, and proper filtration of fluorescent lamps.

"Electronic Imaging to Monitor Condition of Documents." *Abbey Newsletter* 10, no.6:91 (Dec. 1986).

"A Good Cheap Way to Store Microfilm." *Abbey Newsletter* 10, no.2:17–18 (Apr. 1986).
Describes the storage of microfilm in hermetically sealed pouches, an approach that avoids strict environmental control of housing and storage facilities.

"Harvard Depository in Southborough Opens." *Research Libraries in OCLC: A Quarterly* no.18:7 (Winter 1986).

Meyer, Alfred. "Daily Rise and Fall of the Nation's Revered Documents." *Smithsonian* 17, no.7:135 (Oct. 1986).
America's Declaration of Independence, Constitution, and Bill of Rights are protected by extraordinary measures. Article describes deterioration of these documents and the development of an electronic, computer-assisted camera to monitor their condition by examining changes in the character of ink and parchment.

"Preservation Statistics Survey." *Association of Research Libraries Newsletter* no.129:5 (Mar. 19, 1986).
Brief report of the preliminary analysis of responses to the pilot ARL Preservation Statistics Survey of 1984–85.

Ogden, Sherelyn. "Treatment of Wooden Shelving for Books." *CAN* no.27:6 (Oct. 1986).
Gives guidelines for the treatment of wooden shelving to protect books from harmful acids given off by untreated wood.

Raynes, Patricia. "Insects and Their Control in the Library." *CAN* no.27:4,24–25 (Oct. 1986).
Provides an overview of damage to library materials caused by a variety of insects, insect control procedures, and efforts by libraries to protect collections from infestation.

Siler-Regan, Linda. "Georgetown Law Surveys its Book Collections." *National Preservation News* no.4:9–10 (Apr. 1986).
Georgetown University Law School adapted the OMS Collection Analysis Project to assess library functions, including preservation. Survey findings and resulting recommendations for corrective and preventive action are reported.

Reports of Conference Proceedings

Batton, Susan Sayre, and Susan G. Swartzburg. "GBW Seminar." *CAN* no.25:12 (Apr. 1986).
Report of activities at the fourth Seminar on Standards in Bookbinding, sponsored by the Guild of Bookworkers. Questions were raised not only about materials and procedures but also about the ethics of conservation work.

Berlin, Netta. "Forum III: Wye Plantation Preservation Conference, March 19–21, 1986." *CAN* no.26:13 (July 1986).
Reports on an important conference convened by Council on Library Resource's Committee on Preservation and Access. Participants received the committee's proposals for program management and funding and endorsed the formation of a Commission on Preservation and Access.

Buchanan, Sally A. "PLMS/NPPO Preservation Conference." *CAN* no.24:13 (Jan. 1986).
A clear report of the last of three conferences cosponsored by ALA/RTSD

and LC and designed to fill preservation education needs at various levels: library administrators, middle management, repair and binding staff.

Frieder, Richard. "AIC Book and Paper Presentations." *CAN* no.27:10 (Oct. 1986).

Brief reports of some papers presented at the Book and Paper Specialty Section of the American Institute for Conservation of Artistic and Historic Works. Of particular interest is a panel discussion, "The Conservator as Collections Manager: Implications for the Profession."

_____. "AIC Disaster Preparedness Symposium." *CAN* no.27:11-12 (Oct. 1986).

Garlick, Karen and Sylvia Rodgers. "New Directions in Paper Conservation." *National Preservation News* no.5:8-9 (July 1986).

Report of the tenth anniversary conference of the Institute of Paper Conservation.

Henderson, Cathy. "Ad Hoc Committee on Curatorial Issues Raised by Conservation." *CAN* no.25:11 (Apr. 1986).

Hunt, Gary A., "Ohio Conservation Committee." *CAN* no.25:11 (Apr. 1986).

"International Conference on Preservation of Library Materials, Vienna, 7-10 April 1986." *IFLA Journal* 12, no.3:240-42 (Aug. 1986).

Report of the conference convened by the Conference of Directors of National Libraries, IFLA, and UNESCO.

"Library of Congress Hosts LBI Fall Technology Workshops." *New Library Scene* 5, no.6:8-9 (Dec. 1986).

McCrady, Ellen. "AIC, Chicago, May 1986—a Report." *Abbey Newsletter* 10, no.4:49-51 (Aug. 1986).

Summarizes the annual conference. Of special interest is the report of a joint session on disasters, sponsored by the book, paper, and photographic materials specialty groups.

_____. "An Unprecedented Conference," *Abbey Newsletter* 10, no.4:54 (Aug. 1986).

Announces the annual conference of the (British) Library Association, this year cosponsored by the National Preservation Office of the British Library. The entire conference and three postconference seminars focus exclusively on preservation of library materials.

McKern, Debra. "Wei T'o Workshop." *Abbey Newsletter* 10, no.4:5-7 (Aug. 1986).

A day-long workshop titled "Spray Deacidifying Books and Flat Work and Using Freezers to Dry Books and Exterminate Insects" was sponsored by Wei T'o Associates. The two-part program covered use of a Wei T'o system in Princeton University Library's large-scale spray deacidification facility and provided hands-on instruction in treatment of water-damaged and insect-infested books.

Marine, Stephen. "Post-conference report; Library Preservation: Fundamental Techniques." *RTSD Newsletter* 11, no.1:1-4 (1986).

Describes the last in the series of ALA/RTSD/LC conferences funded in part by a Mellon grant.

Murray, Toby. "ConSect Meeting." *CAN* no. 24:15,22 (Jan. 1986).

Briefly reports annual meeting of Conservation Section of the Society of American Archivists (SAA).

_____. "HRC Symposium." *CAN* no.26:12–13 (July 1986).
Relates proceedings of the symposium "Paper: the Conservation of Meaning," held at Harry Ransom Humanities Resource Center (HRC), University of Texas at Austin. Presentations covered both theoretical and management aspects of conservation and included hands-on demonstrations.

_____. "IPC Tenth Anniversary Conference." *CAN* no.26:11 (July 1986).

_____. "Preservation for Collection Managers." *CAN* no.27:15 (Oct. 1986).
Report of the ALA/RTSD preconference.

"New Directions in Paper Conservation." *Abbey Newsletter* 10, no.3:37–38 (June 1986).
This summary of the Institute of Paper Conservation conference includes brief reports of recent important technological and procedural developments.

"Preservation Management Institute for Archivists." *National Preservation News* no.6:11 (Oct. 1986).
Reports on a two-week institute presented in June 1987, cosponsored by SAA and the Northeast Document Conservation Center. The purpose is to provide intensive training for archivists responsible for development of a preservation program.

"Preservation Microfilming Conference Draws Full House." *National Preservation News* no.4:15–18 (Apr. 1986).
Report of the conference "Preservation Microfilming: Administrative Issues," cosponsored by LC, ALA/RTSD, and SAA.

Rader, Hannelore B., "Library Resources in Wisconsin: The Preservation Outlook." *College & Research Libraries News* 47, no.10:649–50 (Nov. 1986).
Outlined needs for preservation in Wisconsin, detailed services available, and proposed a plan for a Wisconsin state preservation program.

"Recommendations from the Vienna Conference." *National Preservation News* no.6:7 (Oct. 1986).

Riemer, Janet T. "NARA Preservation Conference." *CAN* no. 25:12–13 (Apr. 1986).
Reports a one-day conference held by the National Archives and Records Administration covering topics such as film as a preservation medium, research and development of indoor air-pollution control, and evaluation of a conservation treatment proposal.

Ruschoff, Carlen and Karen A. Schmidt. "Technology at the Library of Congress. A Report on the LITA/LC Institute, May 5–7." *LITA Newsletter* no.26:10–13 (Fall 1986).
Brief outlines of all technological developments at LC, many of which include preservation as an area of concern and goal for action.

Russell, Ann. "Evaluating Library Preservation Options Workshop." *CAN* no.25:11,12 (Apr. 1986).

Simpson, Ethel C., "Arkansas Academic Librarians Hear Conservation Program." *CAN* no.27:12–13 (Oct. 1986).

Smith, Michael O. "Basic Training with the Captain in Michigan." *CAN* no.24:12 (Jan. 1986).

Swartzburg, Susan G., "ALA Mid-winter Meetings." *CAN* no.25:13-14 (Apr. 1986).

Concise reports on the Midwinter Meetings of ALA/PLMS committees. Points out increasingly close alliance with other ALA and conservation-related groups. Reports first meeting of the newly formed Preservation Administrators' Discussion Group, a forum for examination of managers' problems.

Wysocki, A. "International Conference of Preservation of Library Materials." *IFLA Journal* 12, no.4:311-14 (Nov. 1986).

PRESERVATION PROGRAMS

INSTITUTION-BASED PROGRAMS

These reports generally include a short history of preservation programs, a description of their components, and an outline of their plans for future development.

Boomgaarden, Wesley L. and Harry Campbell. "Preservation at The Ohio State University Libraries." *CAN* no.25:6-7,16 (Apr. 1986).

Horton, Richard A. "Preservation Efforts at the General Libraries, University of Texas at Austin." *CAN* no.25:1-3,21-23 (Apr. 1986).

Montori, Carla J. and James R. Canary. "Preservation at Indiana University Libraries." *CAN* no.27:8,26-27 (Oct. 1986).

"NLM Preservation Program Update." *National Preservation News* no.6:10-11 (Oct. 1986).

Pyatt, Timothy D. "Conservation Project Preserves Moravian Music Manuscripts." *CAN* no.26:1,2 (July 1986).

Schieber, Paul. "Harry Ransom Humanities Research Center: Preserving the Creative Process." *Research Libraries in OCLC: A Quarterly* no.17:1-3 (Autumn 1986).

Ward, Christine W. "Preservation at the New York State Archives." *CAN* no.26:4-5,23-24 (July 1986).

ARL/OMS PRESERVATION PLANNING PROGRAM REPORTS

Preservation Planning Program (PPP) studies were published by several libraries that served as demonstration sites for OMS with funding from NEH. Demonstration-project libraries conducted in-depth studies of preservation activities and needs and formulated plans to initiate new projects and upgrade existing ones.

Crownenwett, Philip N. "Is There Life After PPP?" *CAN* no.26:7,15 (July 1986).

Describes the experiences of the Dartmouth College Library, one of three pilot PPP sites in 1981. Offers an interesting perspective on the benefits and costs.

Final Report of the Preservation Planning Program Study Team, The Center for Research Libraries. Washington, D.C.: ARL, 1986.

Final Report of the Preservation Planning Program Study Team, Northwestern University Library Washington, D.C.: ARL, 1986.

Humphreys, Betsy L., "NLM Preservation Update." *National Preservation News.* no.4:4-5 (Apr. 1986).

Report of findings of the National Library of Medicine's self-study. Enumerates some of the actions recommended to assure long-term availability of NLM's biomedical research collection.

"OMS Receives Additional NEH Grant for Preservation Planning." *Association of Research Libraries Newsletter* no.131:9 (Aug. 29, 1986).

NEH awarded OMS a grant to support the revision and expansion of both the manual and resource notebook used by institutions conducting the OMS PPP.

Preservation Planning Program Study Report, Smithsonian Institution Libraries (Washington, D.C.: ARL, 1986).

Preservation Planning Program, University of Tennessee, Knoxville Library Final Report (Washington, D.C.: ARL, 1986).

Preservation Program for the University of Oregon Library. The Final Report of the Preservation Planning Program (Washington, D.C.: ARL, 1986).

Preserving The Ohio State University Libraries' Collections: The Ohio State University Libraries Preservation Planning Program (Washington, D.C.: ARL, 1986).

Stitts, Maxine, "Preservation Issues in Technical Services: Discoveries of PPP Participants," *RTSD Newsletter* 11, no.3:25-27 (1986).

Excerpts from four programs showing analyses of technical services practices that affect and are affected by action on preservation concerns.

Cooperative Preservation Programs

Agresto, John. "Preserving Our Heritage." *National Preservation News* no.5:1-13 (July 1986).

Transcript of an address delivered at the New York conference, "Our Memory at Risk," held at the end of a three-year project to analyze preservation needs of the state's libraries and archives. Looks at preservation as a political, social, and scholarly imperative.

Bello, Susan E. *Cooperative Preservation Efforts of Academic Libraries.* Urbana-Champaign: Univ. of Illinois Graduate School of Library and Information Science, 1986.

A history and analysis of major plans for cooperative preservation programs in U.S. libraries over the past thirty years.

Brittle Books: Reports of the Committee on Preservation and Access. Washington, D.C.: Council on Library Resources, 1986.

Summarizes the work of the CLR Committee on Preservation and Access, earlier reports are published as appendixes. This final report outlines the problems of deteriorating materials, discusses the committee's principles and assumptions, and presents plans for action and funding.

Broom, Andrew. "The ICA Committee on Conservation and Restoration." *IFLA Journal* 12, no.4:314-16 (Nov. 1986).

Describes the purpose and activities of the Conservation and Restoration Committee of the International Council on Archives. The committee, which cooperates with IFLA in a number of areas, including conservation, promotes the adoption of archival conservation techniques that meet the highest standard among ICA member countries, publishes a journal (*Conservation News*), and is working on a multilingual *Glossary of Archive Conservation Terms.*

Cain, Mark E. "Preservation and Access Committee." *CAN* no.24:8 (Jan. 1986).

Reports the background of CLR's Preservation and Access Committee, reviews its charge, and discusses its *Interim Report.*

"CLR establishes Commission on Preservation and Access." *National Preservation News* no.4:2–3 (Apr. 1986).

"CLR Preservation Commission." *Association of Research Libraries Newsletter* no.130:15 (June 1986).

Reports the business of the first meeting of the CRL Commission on Preservation and Access. Notes that the commission's role is to support the efforts of institutions to act rather than assuming major responsibility for preservation. Reports the establishment of the National Advisory Council on Preservation, which will complement the commission's work by providing policy guidelines and assistance.

"Commission on Preservation and Access: Recent activities." *National Preservation News* no.5:4–5 (July 1986).

"Commission on Preservation and Access: Recent Activities." *National Preservation News* no.6:9–10 (Oct. 1986).

"Cooperative Preservation Programs Meet to Discuss Needs, Goals, and Strategies." *National Preservation News* no.3:3–5 (Jan. 1986).

Reports on the initial meeting of representatives of thirteen cooperative preservation programs from state, regional, and national levels.

Geh, Hans-Peter. "Conservation/Preservation: An International Approach." *Library Resources & Technical Services* 30, no.1:31–35 (Jan./Mar. 1986).

Describes importance of international cooperation in solving preservation programs. Proposes specific projects and goals, describes IFLA's new Core Programme. Argues for international educational and training opportunities.

Govan, J. F., "Preservation and Resource Sharing: Conflicting or Complementary?" *IFLA Journal* 12, no.1:20–24 (Feb. 1986).

Examines the seemingly conflicting needs for preservation and for sharing materials. Concludes that reformatting into an easily reproducible medium, sensible interlibrary loan guidelines, and new text transmission technologies can eliminate the conflict.

McCoy, Richard W. "RLG Preservation Activities in the Context of the Vienna Conference." *National Preservation News* no.25:1–4 (July 1986).

Reviews the RLG Cooperative Microfilm Project and offers it as a model for international cooperation.

"NAGARA Issues Report on Preservation Needs in State Archives." *National Preservation News* no.3:1–3 (Jan. 1986).

Reviews the findings of a yearlong study assessing the preservation needs of the fifty states' archives.

Nyren, Karl. "New York Forges Action Plan: 'Our Memory at Risk.' " *Library Journal* 111, no.12:14–15 (June 1986).

Reports on a daylong conference to examine a document outlining the state of New York's plan to preserve its documentary heritage.

"OCLC and RLG Announce Exchange of Preservation and Microfilm Set Records." *Research Libraries in OCLC: A Quarterly* no.18:5 (Winter 1986).

Report on the exchange of machine-readable tapes containing cataloging records of preservation master microfilms and major microfilm sets between OCLC and RLG, the first cooperative exchange of records initiated by the utilities. Exchange will continue on a regular monthly basis until the Linked Systems Project enables direct transmission between their computers.

"OCLC and RLG Exchange Preservation Records." *National Preservation News* no.4:5-6 (Apr. 1986).

"Preservation Initiatives in the States." *National Preservation News* no.6:1-6 (Oct. 1986).

Reviews activities in California, Illinois, New Jersey, New York, Ohio, and Wisconsin, all of which have or are planning statewide cooperative preservation programs.

Russell, Ann. "Cooperative Preservation Programs," *CAN* no.25:11 (Apr. 1968).

Brief report of meeting of representatives of cooperative preservation programs, held to facilitate communication, plan for sharing resources, identify common needs, and place themselves within the national preservation effort.

_____. "Regional Conservation Centers." *CAN* no.27:15 (Oct. 86).

Records meeting of ten nonprofit regional conservation centers in May 1986 to discuss common problems and plan coordinated actions.

Smith, Merrily A. "The IFLA Core Programme on Preservation and Conservation (PAC)." *IFLA Journal* 12, no.4:305-6 (Nov. 1986).

Reviews development of IFLA's PAC programme, its organization and management, and the areas it will address (policy, research, coordination, education, and publication).

_____. "IFLA Establishes Preservation Core Programme." *National Preservation News* no.6:8-9 (Oct. 1986).

Sparks, Peter G., and Merrily A. Smith. "Annual Report 1985 of the IFLA PAC Programme." *IFLA Journal* 12 no.2:137-38 (May 1986).

Reports the formation of the new IFLA Core Programme on Preservation and Conservation. LC will be the international focal point of this programme, and be involved in several areas of activity.

Starr, Mary Jane, "The Preservation of Canadian Newspapers." *Microform Review* 15, no.3:162-64 (Summer 1986).

Discusses the National Library of Canada's Decentralized Program for Canadian Newspapers, a cooperative project to collect, preserve, and make available all Canadian newspapers—past, present, and future.

"Statewide Planning for Preservation: the New York Experience." *National Preservation News* no.4:1-2 (Apr. 1986).

Sullivan, Larry E. "United States Newspaper Program Progress and Prospects." *Microform Review* 15, no.3:158-61 (Summer 1986).

Presents a brief history of newspaper printing in the U.S., describes the problems associated with preservation and bibliographic control of newspapers, and discusses a national coordinated program to identify, catalog, and microfilm newspaper titles identified as scarce and of scholarly research value.

Ward, Christine. "Our Memory at Risk." *CAN* no.27:12 (Oct. 1986).

Reports on New York state conference.

SELECTION FOR PRESERVATION

Atkinson, Ross W. "Selection for Preservation: a Materialistic Approach." *Library Resources & Technical Services* 30, no.4:341-53 (Oct./Dec. 1986).

Suggests a framework for preservation selection based on the relationship of collection development and preservation. Within this framework, constructs a system for coordinated, cooperative preservation programs.

Child, Margaret S. "Further Thoughts on 'Selection for Preservation: A Materialistic Approach.' " *Library Resources & Technical Services* 30, no.4:354–62 (Oct./Dec. 1986).

Reviews Atkinson's conceptual framework for selection and suggests ways to prioritize collections for preservation.

Commercial Library Binding

"Bookbinding Past, Present, and Future." *New Library Scene* 5, no.5:7 (Oct. 1986).

Reviews a seminar for library binders to discuss changing demands made by librarians concerned with preservation needs. Suggested ways to meet those demands.

DeCandido, Robert. "Out of the Question." *CAN* no.26:17 (July 1986).

A clear and sensible discussion of how to choose a library binder whose services match your needs.

———. "Out of the Question." *CAN* no.27:9,17 (Oct. 1986).

A "prequel" to the author's column on selecting a binder, this article discusses the development of binding specifications.

Jacobsen, Bruce. "Computer Communications and Binderies." *New Library Scene* 5 no.2:1,12 (Apr. 1986).

A general overview of computer use by library binders and by libraries' bindery preparations units. Suggests the development of customized software.

Parisi, Paul, and Jan Merrill-Oldham. "The LBI Standard for Library Binding: The Glossary." *School Library Journal* 33, no.2:96–98 (Oct. 1986).

With a short introduction, reproduces the glossary and illustrations of the eighth edition of the Library Binding Institute's standard. Provides the vocabulary and visual concepts needed to communicate with a binder.

Rebsamen, Werner. "Oversew or Adhesive Bind?" *New Library Scene* 5, no.6:12–15 (Dec. 1986).

Compares the advantages and disadvantages of two heavily used methods of leaf attachment—oversewing and adhesive binding. Includes easily understood technical explanations and discusses strength, flexibility, and cost.

Conservation Treatments

"Binding Repair Unit Keeps on Rolling." *National Preservation News* no.4:10–11 (Apr. 1986).

Description of LC's mobile binding repair unit and its place in the range of preservation services offered at LC.

DeCandido, Robert. "Out of the Question." *CAN* no.24:15 (Jan. 86).

This column deals with the problems of using pressure-sensitive tape on library and archival materials. Discusses various types of tape and adhesives and gives cautionary advice on their use.

"Judge Closes Down Secret 'Repair' Program in Library." *Abbey Newsletter* 10, no.4:1 (Aug. 1986).

Tells the story, both funny and frightening, of a library patron launching a furtive, full-scale "repair" operation in two University of Colorado libraries. Patron taped spines of "neglected" books and changed call numbers to correct cataloging "mistakes."

Morrow, Carolyn Clark and Carole Dyal. *Conservation Treatment Procedures,* 2d ed. (Littleton, Colo.: Libraries Unlimited, 1986).

This enlarged and revised edition is a welcome addition to the literature on treatment of materials of nonartifactual value. It includes administrative and organizational information, but its greater value lies in its descriptions of treatment procedures.

Ouelette, David. "Book Conservation Procedures: Some Variations." *Abbey Newsletter* 10, no.3:46–47 (June 1986).

Describes author's unconventional solutions to some common specific problems in the conservation of rare materials. His description of washing bound books, based on reading disaster-recovery literature, is of special interest.

Palmer, Patricia. "What's a Bookbinder?" *CAN* no.27:14–15 (Oct. 1986).

Reports a panel discussion by bookbinders and conservators about their craft. Opens a different world for the librarian/administrator.

Schlefer, Elaine R., "Wrappers With Magnetic Closures." *Abbey Newsletter* 10, no.5:74 (Oct. 1986).

Gives directions for constructing two types of protective wrappers with magnetic closures. Makes good points about the advantages of this closure method.

Shahani, Chandru J. "Letter to Editor." *Abbey Newsletter* 10, no.2:20 (Apr. 1986).

The author, a research scientist at LC, summarizes the effects of encapsulation on both acidic and deacidified papers.

Wachter, Wolfgang. "Mechanizing Restoration Work—the Deutsche Bucherei, Leipzig, and Its Role as a Regional Centre for IFLA." *IFLA Journal* 12, no.4:307–9 (Nov. 1986).

Describes the Office for the Care of Stocks at the Deutsche Bucherei in Liepzig, German Democratic Republic, which oversees the various preservation and conservation efforts there. These efforts focus on restoration activities, education and training, and research.

Reformatting as a Means of Preservation

Bourke, Thomas A. "The Microfilming of Newspapers: an Overview." *Microform Review* 15, no.3:154–57 (Summer 1986).

Burdick, Amrita J. "Library Photocopying: The Margin of Caring," *New Library Scene* 5, no.3:17–18 (June 1986).

Suggests several ways to minimize damage to books while photocopying.

Calmes, Alan, "New Confidence in Microfilm." *Library Journal* 111, no.15:38–42 (Sept. 15, 1986).

Reviews advances in image reproduction technology of the past decade, comparing microfilm to optical disk as a preservation medium. Reaffirms microfilm as the most practical format, due to its standardization, ease of use and copying, relative economy, and longevity.

Dodson, Susan Cates. "Microfilm Types: There Really is a Choice." *Library Resources & Technical Services* 30, no.1:84–90 (Jan./Mar. 1986).

Compares the physical characteristics and longevity of silver halide, diazo, and vesicular films.

Dupont, Jerry. "Microform Film Stock: A Hobson's Choice. Are Librarians Getting the Worst of Both Worlds?" *Library Resources & Technical Services* 30, no.1:79–83 (Jan./Mar. 1986).

Argues that diazo microfiche is the best choice for use copies of filmed materials, since use copies need not be archival standard. Theorizes that the preservation master negative will always be available for recopying.

Goerler, Raimund E. and Robert A. Bober. "Preservation Microfilming: At What Cost?" *CAN* no.26:8,22 (July 1986).

Describes the use of a rotary microfilm camera to film post-1960 office files from the Ohio State University archives. Discusses the difference in quality between planetary and rotary produced images, documents cost savings for use of rotary equipment in limited applications.

"In the Preservation Office . . . Preservation Microfilming and Illustrated Materials," *National Preservation News* no.6:12-13 (Oct. 1986).

LC's Preservation Microfilming Office, working with other offices and divisions at LC, has developed policies and procedures that enable Library to retain illustrated pages from deteriorated items.

Kantor, Paul. *Costs of Microfilming at Research Libraries: A Study of Four Institutions* Washington, D.C.: Council on Library Resources, 1986.

Reports the findings of a CLR study to identify and analyze the costs associated with preservation microfilming at LC, New York Public, Columbia University, and the University of Chicago libraries.

"Library of Congress Announces Public Opening of Access to Optical Disk Technology." *Library of Congress Information Bulletin* 45, no.7:61-62,64 (Feb. 17, 1986).

Reports on opening of print project of Optical Disk Pilot Program to public use.

Lynch, Clifford A., and Edwin Brownrigg. "Conservation, Preservation, and Digitization." *College & Research Libraries* 47, no.4:379-82 (July 1986).

Proposes the use of digital technologies to preserve information and improve access via reformatting.

McClung, Patricia A. "Costs Associated with Preservation Microfilming: Results of the Research Libraries Group Study." *Library Resources & Technical Services* 30, no.4:363-74 (Oct./Dec. 1986).

Summarizes a study of the costs and time associated with the RLG Cooperative Preservation Microfilming Projects undertaken by seven RLG institutions.

Montague, Robert. "A Nation's Printed Heritage on Microfiche." *CAN* no.24:7,24 (Jan. 1986).

Reviews history and purpose of the Canadian Institute for Historical Microreproductions, founded to solve problems of preservation and access to printed Canadiana.

"NRMM Recon Project is Funded." *National Preservation News* no.5:6 (June 1986).

"Prototype Copier Finds a Home at USC." *Abbey Newsletter* 10, no.6:92 (Dec. 1986).

Research and Technology

Chepesiuk, Ron. "On Assignment." *Wilson Library Bulletin* 60, no.10 (June 1986).

Interviews Richard Smith of Wei T'o, manufacturer of a nonaqueous book deacidification system and Joyce Banks of the National Library of Canada, which uses the Wei T'o system in a large-scale deacidification facility.

"Computer News From Australia." *Abbey Newsletter* 10, no.2:17,18 (Apr. 1986).

Reports continuing efforts to develop a conservation-related database for a cooperative national information system for Australia's libraries.

"Encapsulation Research." *Abbey Newsletter* 10, no.1:1 (Feb. 1986).
Reports on the testing conducted by LC's Research and Testing Laboratory into mylar and polypropylene, to determine effects on paper encapsulated.

"Gamma Radiation Approval Seen." *Abbey Newsletter* 10, no.1:12 (Feb. 1986).
Congress may approve higher levels of ionizing radiation for food preservation. This radiation kills insects, bacteria, and other microorganisms, and is used by conservators to kill molds common in libraries and archives.

Griffin, Jeff. "The Print Project Retrieval System." *National Preservation News* no.5:16–18 (July 1986).
Describes LC's research into the most effective way to retrieve periodical literature in optical digital disk mode.

Computer Technology for Conservators Halifax, Nova Scotia: International Institute for Conservation of Historic and Artistic Works, Canadian Group, 1986 (Eleventh IIC-CG Conference Workshop, Halifax, 1985).
Contains information on how conservators use computers, on databases of particular interest to conservators, and on computer-assisted design and manufacturing.

Lewis, Page. "Optical Disk Pilot Program Supported by Library of Congress." *Research Libraries in OCLC: A Quarterly* no.18:10–11 (Winter 1986).
Describes the development of the pilot program, application of the technology for preservation, preservation needs of optical disks, development of technical standards, problems associated with technology and longevity of disk players.

"The Koppers Deacidification Patent." *Abbey Newsletter* 10, no.6:85–86, 88 (Dec. 1986).
Reproduces excerpts of U.S. patent granted for a deacidification method which may be a promising mass deacidification technique.

Manns, Basil, and Tamara Swora. "Books to Bits: Digital Imaging at the Library of Congress." *Journal of Information and Image Management* 19, no.10:26–32 (Oct. 1986).
Discusses the continuing evolution of LC's digital imaging system, describes the development of the database, and provides a detailed technical overview of the configuration, input, image processing, compression, and hardware specifications.

"New Ways to Remove Lignin." *Abbey Newsletter* 10, no.1:1,2 (Feb. 1986).
Reports results of two research projects which found new methods to separate cellulose from lignin, the "glue" that binds cellulose fibers in plants and causes wood-pulp paper to weaken.

"Preservation Data Elements for USMARC." *National Preservation News* no.5:7 (July 1986).
Reports on a meeting of an ad hoc working group assembled by the Network Development and MARC Standards Office, to identify preservation decision-making data for possible inclusion in USMARC format.

"The Preservation Research and Testing Office." *National Preservation News* no.3:9–11 (Jan. 1986).
Recounts the history and development of the office and describes some of its work and contributions to preservation.

Storch, Paul S. "A Brief Look at Applications of Instrumental Analysis in Conservation." *CAN* no. 27:25–26 (Oct. 1986).
Reviews technology developed for research in natural sciences as applied to

materials analysis in a conservation lab.

LC Mass Deacidification Project

LC worked for over ten years to develop a method for the mass deacidification of books and other paper-based library materials. It patented a process to arrest paper degradation and extend the useful life of materials. This process, which neutralizes paper's acidity and leaves an alkaline reserve to guard against reacidification, is based on a gas-phase impregnation of the materials with diethyl zinc (DEZ).

LC contracted with an engineering team from Northrup Services to construct a small-scale book deacidification test facility at the National Aeronautics and Space Administrations's (NASA) Goddard Space Flight Center. The data obtained from operation of the test facility was to be used in construction of the full-scale Mass Book Deacidification Facility at Fort Detrick, Maryland. Before the entire test series could be completed, the facility was damaged by two separate fires and a small explosion caused by accidental exposure of liquid DEZ to air. NASA engineers subsequently concluded that the lines of the chemical delivery system should be cut to forestall further incidents. For safety reasons, the lines were cut remotely by detonating small cutting charges attached to the pipes and valves of the delivery system. This caused a third fire. The facility was shut down pending a review.

LC and NASA concluded that continued operation of the test facility and design of the full-scale treatment facility should be handled by a chemical processor. LC negotiated a contract with a chemical design firm and a major manufacturer of metal alkyls for the design, construction, and operation of a new test facility.

Much was written about this series of incidents. All the facts of the case are not yet known, and reviews of the test facility's design and procedural flaws are incomplete. When all the facts are assembled LC can determine whether redesign of the facility can correct the errors in the system. Yet some argue that the entire enterprise should be abandoned.

Citations to major articles on these events follow:

"Book Deacidification Program Update." *Library of Congress Information Bulletin* 45, no.36:310–11 (Sept. 8, 1986).

"Engineering Problems Experienced at Deacidification Test Facility." *Library of Congress Information Bulletin* 45, no.11:87 (Mar. 17, 1986).

"Library's Book Deacidification Program Moves Forward Following a Review of Incidents at Pilot Plant." *Library of Congress Information Bulletin* 45, no.27:255–56 (July 7, 1986).

"News and Notes from NPPO: DEZ Update: *National Preservation News* no.6:18–19 (Oct. 1986).

Nyren, Karl. "Demolition Team Knocks Out LC Deacidification Plant." *Library Journal* 111, no.7:12–13 (Apr. 1986).

_____. "The DEZ Process and the Library of Congress." *Library Journal* 111, no.15:33–35 (Sept. 15, 1986).

_____. "It's Time to Dump DEZ." *Library Journal* 111, no.15:4 (Sept. 15, 1986).

_____. "LC Reports Flaws in DEZ Process; Will Contract With Chemical Firm." *Library Journal* 111, no.13:22 (Aug. 1986).

Patterson, Robert H. "Mass Deacidification: the Bad News and the Good News." *CAN* no.26:3 (July 1986).

Sparks, Peter G. "LC's Mass Deacidification." *Library Journal* 111, no.13:10–11 (Aug. 1986).

Welsh, William J. "In Defense of DEZ: LC's Perspective." *Library Journal* 112, no.1:62–63 (Jan. 1987).

Preservation of Nonbook Materials

Griffin, Marie P. "Preservation of Rare and Unique Materials at the Institute of Jazz Studies." *CAN* no.25:8–9 (Apr. 1986).

Describes the institute's project to preserve, catalog, and index sound recordings, and to protect its clippings file for eventual microfilming.

"More on Photogard." *Abbey Newsletter* 10, no.5:70 (Oct. 1986).

Contains details on film-coating process described in the June issue.

"Nearly Archival Color Micrographs." *Abbey Newsletter* 10, no.2:18 (Apr. 1986).

Reports development of color films said to be good for 100 years at normal temperature and relative humidity.

Olson, Nancy B. "Hanging Your Software Up to Dry." *College & Research Libraries News* 47, no.10:634–36 (Nov. 1986).

Describes the successful salvage and recopying of over 100 wet microcomputer disks.

"Photogard." *Abbey Newsletter* 10, no.3:38 (June 1986).

Describes a process for coating film in order to protect it from damage through use.

"Testing the Disk: Predictions of Longevity." *National Preservation News* no.3:11–13 (Jan. 1986).

The Preservation Testing Project component of LC's Optical Disk Pilot Program is developing methods to evaluate the quality of electronic information stored on disks.

Williams, Gene. "Taking Care of the Small Computer: A Guide to Librarians." *Wilson Library Bulletin* 61, no.4:14–16 (Dec. 1986).

_____. "The VCR in the Library: Tips on Care and Maintenance." *Wilson Library Bulletin* 61 no.2:14–17 (Oct. 1986).

Emergencies and Disasters

Butler, Randall. "The Los Angeles Central Library Fire." *CAN* no.27:1–2,23–24 (Oct. 1986).

An excellent report of the arson that destroyed/damaged huge numbers of books at the LA Public Library. Provides a detailed account of rescue operations, efforts to continue service to the public, and the massive freeze-drying process undertaken by McDonnell Douglas.

Etherington, Don. "1985 Rare Book Fire." *Abbey Newsletter* 10, no.5:72 (Oct. 1986).

Describes effects of extremely high heat on bindings and binding materials, observed after a fire in a publishing company/rare books dealer's offices.

Eulenberg, Julia Niebuhr. *Handbook for the Recovery of Water Damaged Business Records.* (Prairie Village, Kans.: Association of Records Managers and Administrators, 1986).

Aimed at business record managers, it does not mention books, but is strong in its coverage of paper records, magnetic media, photographic records, and specialized media.

"Freeze Drying." *Abbey Newsletter* 10, no.5:71 (Oct. 1986).

This excellent article gives facts about the freeze drying process itself, including how to find someone who can freeze dry wet books, how to communicate with that person, and how to make sure the drying is done correctly.

George, Susan C. and Cheryl T. Naslund. "Library Disasters: a Learning Experience." *College & Research Libraries News* 47, no.4:251-57 (Apr. 1986).
Excellent article on a series of water-related emergencies at Dartmouth College's Kresge Library. Clear explanations, descriptions, and advice.

"L.A. Public Library Burns." *Abbey Newsletter* 10, no.3:33-34 (June 1986).

Matthew, Fred W. "Dalhousie Fire." *Canadian Library Journal* 43, no.4:221-26 (Aug. 1986).
An excellent article on the 1985 fire at Dalhousie University's law library in Halifax, Nova Scotia. Candid evaluation of what went well and what did not.

Morris, John. *The Library Disaster Preparedness Handbook* (Chicago: American Library Assn., 1986).
Although the definition of "disaster" may be too broad, this book is an excellent source of information on a wide range of topics.

"Nightmare II in LA." *Abbey Newsletter* 10, no.5:69 (Oct. 1986).
Describes the second arson at beleagured LA Public Library, this one destroying most of the Music Reading Room collection. Water and structural damage to the building were extensive.

"Quick Dehumidification after Floods." *Abbey Newsletter* 10, no.5:69 (Oct. 1986).
Report on a machine used for drying grain in elevators, which might be used to dehumidify wet buildings quickly and thoroughly, even when they are full of wet books.

"Regional Disaster Programs: DRAT and DAMP." *Abbey Newsletter* 10, no.6:85 (Oct. 1986).
Brief news of three regional cooperative disaster recovery plans.

Reicher, Leslie Arden. "9 to 5: the Textbook Disaster." *CAN* no.26:6,10 (July 1986).
Describes a well-controlled emergency at Brandeis University Library.

Schaeffer, Roy. "Ounce of Prevention Symposium." *CAN* no.24:10-11,14 (Jan. 1986).
A detailed, clear report of a symposium sponsored by the Toronto Area Archives Group and the Archives of Ontario.

Van Artsdalen, Martha J., "Winterthur: A Museum with Its Own Brand of Firefighting." *CAN* no.24:1-4 (Jan. 1986).
Describes the museum's plans for preventing and coping with fire, including its fire-fighting structure.

Grants, Funding Sources

"ARL Receives Grants for NRMM Recon Project." *Association of Research Libraries Newsletter* no.130:1 (June 18, 1986).

"Congress Funds Granting Agencies, NHPRC Lives." *Abbey Newsletter* 10, no.6:92 (Dec. 1986).

"Environmental Control Made Possible by Grant." *Abbey Newsletter* 10, no.1:4 (Feb. 1986).
Northwestern University received a $75,000 grant from Pew Memorial Trust to apply to the installation of environmental controls in the libraries.

Field, Jeffrey. "The Goals and Priorities of the NEH Office of Preservation." *CAN* no.25:4-5,23-24 (Apr. 1986).

Gives a history of the NEH Office of Preservation, presents its long-range goals, explains the principles that guide its decisions about project funding, clarifies its view of itself as an agent for the preservation of significant research materials.

"Grant News." *CAN* no.24:21 (Jan. 1986).

"Grants to NEDCC and Hoover Institution." *Abbey Newsletter* 10, no.4:52 (Aug. 1986).

Kane, Katherine. "Colorado's Local Assistance Program." *CAN* no.26:9,20 (July 1986).
Describes the program of the Colorado Historical Society, a technical assistance program with a strong commitment to conservation that grants funding to the states' historical agencies.

"Mid-Atlantic Preservation Group Receives Exxon Grants." *Association of Research Libraries Newsletter* no. 131:8 (Aug. 29, 1986).

"NEH, NEA, and IMS Reauthorized; Curran Rejected." *Abbey Newsletter* 10, no.1:3 (Feb. 1986).

"NEH Office of Preservation Fiscal 1986 Awards to Date." *National Preservation News* no.4:7–9 (Apr. 1986).

"NEH Office of Preservation Additional Fiscal 1986 Grants." *National Preservation News* no.5:14–15 (July 1986).

"The Preservation Office and Gramm-Rudman-Hollings." *National Preservation News* no.4:19 (Apr. 1986).
A sobering description of the effects on the LC Preservation Office of the Balanced Budget and Emergency Deficit Control Act of 1985.

"State Library Receives Preservation Funds." *Research Libraries in OCLC: A Quarterly* no.20:11 (Summer/Fall 1986).
Reports on $141,000 NEH grant to New York State Library, Division of Library Services, to provide educational and technical assistance for conservation.

Education and Training

"Audiovisual Aid to Preservation Planning Available." *National Preservation News* no.6:9 (Oct. 1986).
Announces availability of slide/tape presentation designed and produced by National Preservation Program Office to aid formal program planning.

Baughman, Mary. "Book Conservation Training Deep in the Heart of Texas." *New Library Scene* 5 no.3:1,5–9 (June 1986).
Describes the author's training as a book conservator at the Harry Ransom Humanities Research Center (HRC) at the University of Texas at Austin.

"Commercial Library Binding: The Library's Perspective." *New Library Scene* 5, no.5:14 (Oct. 1986).
Reports a SOLINET Preservation Program seminar introducing librarians to commercial library binding as a means of preserving collections.

"Conservation Videotapes Completed." *National Preservation News* no.6:19 (Oct. 1986).
NPPO announces coming availability of videotapes for loan and sale showing

hands-on sessions presented at the ALA/LC conference "Library Preservation: Fundamental Techniques."

"Cornell Offers Training, Consultancy, Information." *Abbey Newsletter* 10, no.6:100 (Dec. 1986).

A grant to Cornell University Libraries by the Mellon Foundation funds a three-year preservation outreach program offering workshops on preservation management techniques and procedures, consultancies, information clearinghouse services, and internships in conservation treatment procedures.

DePew, John. "FSU's Library School Offers Conservation Lab Course." *National Preservation News* no.3:6-7 (Jan. 1986).

"Johns Hopkins to Offer Training in Book Care and Treatment." *Abbey Newsletter* 10, no.4:54 (Aug. 1986).

Marcum, Deanna B., "Preservation Film Planned by CLR, LC, and NEH." *National Preservation News* no.4:6-8 (Apr. 1986).

Announces production of a documentary film on the preservation of library materials, jointly sponsored by CLR, LC, and NEH.

"Pilot Training Project to be Conducted by NIC." *National Preservation News* no.3:8 (Jan. 1986).

A three-year project of the National Institute for the Conservation of Cultural Property and the American Association for State and Local History to develop a training program for museum conservation staff and publish a training manual.

Russell, Ann. "International Conference on Preservation Education for Librarians." *IFLA Journal* 12, no.3:242-44 (Aug. 1986).

Reports on the conference "The Teaching of Conservation and Preservation Management for Librarians, Archivists, and Information Scientists," jointly sponsored by sections of IFLA, International Federation for Documentation, and the International Council on Archives.

"Training Gets International Attention." *Abbey Newsletter* 10, no.3:35-36 (June 1986).

Reports proceedings of two conferences, "Workshop on the Evaluation of Training Courses on Conservation of Movable Cultural Property," in Bogota, Colombia, and "Teaching of Conservation and Preservation Management" in Vienna, Austria.

Trinkaus-Randall, Gregor. "After the Deluge, What Next? or How ECCL Ran A Disaster Workshop." *CAN* no.24:6,17,21 (Jan. 1986).

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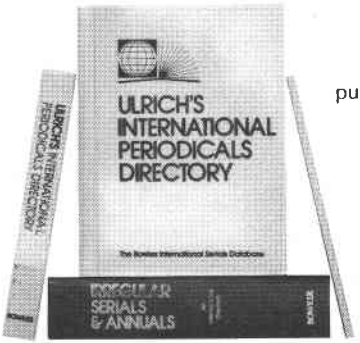

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Book Reviews

Organizing Nonprint Materials. 2d ed. By Jay E. Daily. Books in Library and Information Science, v.48. New York: Dekker, 1986. 301p. U.S. and Canada, $49.75; elsewhere, $59.50 (ISBN 0-8247-7504-X). LC 86-13390.

This book is not a manual but rather a discussion of some of the problems associated with the organization of nonprint materials. It "is written with the object of showing how to interpret rules to meet local needs utilizing technology available with the object of producing maximum results from minimum effort."

In the first edition, published in 1972, the author staked out a position on descriptive cataloging rules apart from mainstream trends. He continues this stance in the second edition by proposing a very liberal interpretation of some rules in AACR2. In other instances his recommendations contravene basic AACR2 principles; for example, he advocates "entry under title for everything except sound recordings and art prints." Part 2 of the text is devoted to cataloging examples of maps, art prints, sound recordings, videocassettes, and games with an explanation of the problems the example represents, of variations from standard rules, and suggestions for classification and subject headings.

The descriptive cataloging aspect of this book will not help those who have, or will have, any connection with standard cataloging practices through networks, commercial catalogers, etc. However, the discussions about subject access, acquisitions, and general cataloging problems will interest many. The text is interwoven with useful suggestions about working with a personal computer, and there is a chapter on the construction of a procedural manual. The book is indexed and has a brief bibliography.—*Jean Weihs, Toronto, Ontario.*

State Library of Victoria Selection Policy. Melbourne, Australia: Library Council of Victoria, 1986. 128p. A$10. (ISBN 0-909962-52-0). (Available from The Accountant, Library Council of Victoria, 328 Swanston St., Melbourne, Australia 3000.)

This volume could be extremely useful to some technical services departments as a sample selection policy working document. The selection statements are written clearly, in outline form, and for the most part follow the ALA Collection Development Committee's *Guidelines for Collection Development* (Chicago: ALA, 1979).

General collection levels are well defined. Subjects are arranged according to DDC. Within each subject area, levels are noted as representative, selective, in depth, or comprehensive. Policy statements for each subject vary somewhat, but usually include the background and scope of the collection. Some statements also include appropriate relationships with other institutions and projected future development. Specifics concerning serials, reference works, and nonbook materials may or may not be included.

The subject orientation of this volume may limit its usefulness; it is, after all, written for an Australian state library. The questions of weeding and preservation are not addressed in detail. More important, there is no mention of budget allocations. There is no index.—*Mary Margaret Benson, Linfield College, McMinnville, Oregon.*

Conservation Treatment Procedures: A Manual of Step-by-Step Procedures for the Maintenance and Repair of Library Materials. 2d ed. By Carolyn Clark Morrow and Carole Dyal. Littleton, Colo.: Libraries Unlimited, 1986. 225p. paper, $30 U.S., $36 elsewhere (ISBN 0-87287-437-0). LC 86-20948.

The purpose of this book is "to provide guidance for the professional librarian who manages or supervises book repair and maintenance activities as well as the paraprofessional or technician who actually does the work. . . . This manual ideally will be used to supplement hands-on training with an experienced conservator" (p. 3).

Conservation Treatment Procedures has been expanded and thoroughly revised. Six new repair procedures have been added. New photographs and rewritten text accompany the procedures that were retained from the first edition. The larger number of photographs generally illustrates the procedural steps better than those in the first edition, although the reproduction of these photographs is not always sharp and occasionally obscures the point being made. The bibliography is very current: more than half of the entries were published since the first edition. The list of supplies and suppliers has been updated. There is no index.

Librarians attempting to maintain a general circulating collection will find it a practical manual for making repairs or decisions about repairs. It is highly recommended.—*Martha Hanscom, University of Wyoming, Laramie.*

Reviews and Reviewing. Ed. by A. J. Walford. Phoenix, Ariz.: Oryx, 1986. 248p. $38.50 (ISBN 0-89774-390-3). LC 86-16371.

The editor of the modestly titled *Walford's Guide to Reference Material* has assembled fourteen solid essays by British librarians on book reviewing. Two general essays that treat the art of reviewing and the obligations of review editors are followed by sections on reviewing in various disciplines. Each disciplinary chapter describes reviewing journals in the field, typically giving for each the number, length, and competence of its reviews, often reproducing excerpts.

The British viewpoint of the authors is sometimes apparent: only one non-British review is cited among journals that review cinema; of twenty reviewing journals in technology, thirteen are British. Some topics important to a U.S. audience (e.g., performing arts and women's studies) are omitted, as are reviews of microforms and databases. More serious is the lack, except for inclusion of *American Journal of Psychiatry* in the section on medicine, of any source in psychology.

An agreeable exception to the neutral and impersonal tone of the essays is Michael Walsh's "Religion and Philosophy." Walsh (review editor of *Heythrop Journal*) describes in graceful prose the state of reviewing in religion and philosophy, his own interest and experience in the field, then reveals, in his discussion of reviewing journals, an intimate acquaintance with the literature in his two fields. J. D. Hendry's "The Administrative Role of the Book-Review Editor" objects to the imposition of word limits on reviews and states that editors are obligated to review books they request from publishers—advice that seasoned editors will find at best naive.

Some important titles are omitted (e.g., *The Romantic Movement,* published both in *English Language Notes* and separately) and typographical errors are too frequent (e.g., *fair* for *fare,* p.46; *extent* for *extant,* p.55; *Malmud* for *Malamud,* p.147; *offical* for *official,* p.154). Appendixes include a list of indexes to reviews and an annotated bibliography, and the book concludes with an index of authors, titles, and subjects.

The only similar work, Richard Gray's *Guide to Book Review Citations* (1968), lacks explanatory text and is now in need of revision. The book will

be useful to publishers of reviews and to librarians as a guide to locating reviews for book selection, but both should remember its British bias and its disavowal of exhaustiveness.—*Robert Balay, Choice, Middletown, Connecticut.*

Human Aspects of Library Automation: Helping Staff and Patrons Cope. Ed. by Debora Shaw. Clinic on Library Applications of Data Processing, 1985. Champaign, Ill.: Graduate School of Library and Information Science, University of Illinois at Urbana-Champaign, 1986. 129p. $15 plus $1 postage (ISBN 0-87845-072-6).

Automation of library functions and services can create repercussions for the entire organization, extending from the staff to the building itself to the user. The papers presented at the Twenty-Second Annual Clinic on Library Data Processing Applications examine all three of these areas. Discussions on staff reactions to automation focus on the psychological reasons for rejection of automation, personnel considerations for the organization including job analysis, staff roles vis-à-vis professional and clerical positions, and the need for an overall human resources plan prior to automation.

Ergonomic considerations in staff work areas to help minimize visual and musculoskeletal fatigue are presented as an important part of the planning process. Management responsibility for the economic considerations in planning and implementation as applied to staff participation, space planning, and actual choice of the vendor is stressed by several of the speakers. A panel composed of individuals involved in some fashion with automation projects in libraries discusses staff involvement in all the previously mentioned areas, evoking many questions, comments, and observations from the audience.

User considerations include discussions on both intellectual and physical access to an automated system. Special users, such as children and youth, the mentally and physically disabled, the elderly and the non-English speaking patron, are considered in some of the same aspects as the previous discussions on staff, i.e., psychological and ergonomic needs.

Two other important topics covered by the clinic that affect the user and the library staff are tips on the preparation of brochures to be used by the public and general training considerations and a renewed interest in assurance of protection of user privacy. The organization of the clinic closely follows the chronology of steps involved in the actual planning process for automation, thereby allowing the reader an opportunity to walk through this process. I would recommend this title to both the novice and the veteran planning for library automation.—*Carol Lagasse, Russell Sage College, Troy, New York.*

Subject Access to Visual Resources Collections: A Model for Computer Construction of Thematic Catalogs. By Karen Markey. New Directions in Information Management, no.11. Westport, Conn.: Greenwood, 1986. 189p. $35 (ISBN 0-313-24031-0). LC 86-7658.

Descriptive Terms for Graphic Materials: Genre and Physical Characteristic Headings. Comp. and ed. by Helena Zinkham and Elisabeth Betz Parker. Washington, D.C.: Cataloging Distribution Service, 1986. 135p. paper, $20. LC 86-20017.

Two recent publications address the problem of how to provide access to visual materials and, in so doing, each makes certain assumptions about the users of such materials. Markey's concern is with Cutter's "desultory user," that is the nonscholar. For this user, unschooled in systems of symbolism, collections of visual images organized iconographically are virtually inaccessible. Such a user might be able to describe a picture: "man

bleeding from holes on hands''; but not be able to infer from this that the theme of the picture is Crucifixion or Man of Sorrows. To make such an inference requires knowledge of images, stories, or allegories, knowledge that Panofsky calls iconographical. To help unsophisticated users, limited by their pre-iconographical vocabulary, make better use of collections of visual images, Markey proposes an index to iconographical descriptions. Her book presents a model of how such an index, called a thematic catalog, might be constructed.

Zinkham and Parker, the authors of the Library of Congress publication, are also concerned about access, but for scholars rather than desultory users, in particular for scholars whose research would be facilitated if access could be provided to visual images by attributes such as mode of production, purpose, or physical attributes. An example they give of their projected user group is of a scholar who wants to investigate the cultural impact of photographically illustrated books; the problem: by what means is the scholar to find such books? The means they have provided is a thesaurus of over 500 genre terms (e.g., cartoons, New Year's cards) and physical-characteristic terms (e.g., computer-aided designs, miniature works). The thesaurus is intended to be used as a source of terms for the MARC 655 field (genre headings) and 755 (physical characteristic headings).

The thematic catalog modeled by Markey consists of an alphabetic listing of iconographical concepts indexed, using the device of a rotated display, by descriptors referring to events, objects, and expressional qualities. The compiling of such a catalog is an eight-step procedure. The first step is to select visual images and indexers. An attempt is made to select indexers who share characteristics with the novice users of the proposed catalog, that is, they had no or limited iconographical knowledge. The remaining steps involve asking the indexers to prepare pre-iconographical descriptions of visual images, making a composite of these, clustering the composite descriptions, contextualizing the clusters, and then having the clusters interpreted by iconographers. One wonders why all of these steps, some of them quite complicated, are necessary just to make an index. Markey herself observes that some of the steps may be unnecessary or altered in practice, that her primary purpose in carrying out her study, actually her doctoral dissertation, is to test this particular approach to iconography indexing. Given such a disclaimer, it would have been instructive if more rationale for the steps had been given as well as more discussion of difficulties encountered in the approach, for instance, the apparent difficulty in restricting indexers to pre-iconographical descriptions (some of the descriptions contain proper names such as Mary or Joseph) and the difficulty in establishing an important assumption of the methodology, *viz.*, that terms cluster because they are related according to iconographical meaning (only about half of the clusters could be so related by the iconographers in the study).

The compilers of the graphic materials thesaurus also sought to incorporate something of the users' mindset into the thesaurus. Their own ideas were constantly refined by suggestions from reviewers, i.e., users, from libraries, museums, and archives. The resulting product is a sophisticated thesaurus that reconciles conflicting points of view and is acceptable to a wide range of users. Other good features of the thesaurus are that it includes a generous number of public notes of a definitional nature and, perhaps owing to this, well-articulated hierarchies and an admirable handling of the insuperable problem of mutually distinguishing subject, genre, and physical characteristic terms.

The Markey book is provided with a serviceable index, though it does

contain some false leads (e.g., phrase indexing pointing to p.134–35). The LC thesaurus is complemented by a classed display organized into ten facets and hierarchical displays for two of the terms which have an unusual number of descendants.

As a library community we may rejoice in these two publications. That there is mounting interest in developing new means of access to visual materials is exciting and that the authors of both these books, in their fashion, attempt to introduce user input into the construction of their access tools is commendatory.—*Elaine Svenonius, University of California–Los Angeles.*

Personal Computers for Libraries. By Howard Falk. Medford, N.J.: Learned Information, 1986. 174p. $16.95 (ISBN 0-938734-10-5).

This title should have the word *introduction* in it because this book will be of use only to librarians just entering the microcomputer arena.

Part 1 is divided into chapters covering types of library applications. Circulation control, catalog management, serials and acquisitions management, and a few other applications are covered adequately. For example, the author uses the chapter on circulation control to cover all the basic features needed in a circulation software package. Charge, discharge, renewal, and patron record-keeping are described in a how-to method that will be helpful to those unsure of what should be included in circulation software. The chapter concludes with a brief review of several available software packages. Other applications are described in a similar manner.

Some of the chapters in part 2 are so brief that they could have easily been combined with chapters in the first part of the book without losing any useful information. A chapter on software for office work could have been included with a chapter on finance and administration software which would have been less confusing. The coverage of spreadsheets and databases would have been greatly enhanced with some illustrations of common library spreadsheet and database models. This would make the written explanations the author gives more meaningful.

The most useful chapter in part 2 covers the evaluation of software quality and suggests such practical steps as getting a full demonstration, checking the manuals, talking with current users of the software, and testing the software for error recovery.

The author skims over the area of communications software, an area that all librarians will have to wrestle with at some point. For example, the book lacks a description of how such software must be configured to communicate with other computers. Emulation is barely mentioned; it would have been helpful to learn when emulation is needed and how to do this with software.

No mention is made of "shareware" or "freeware." All librarians setting up microcomputer operations need to know that it is possible to get decent software without decimating the operations budget.

Bulletin boards and electronic mail are briefly covered. The descriptions given would be enhanced by describing and showing screen displays from a system relevant to librarians, such as ALANET.

The basic components of microcomputer hardware are covered adequately. Enhancements such as expanded memory boards, accelerator boards, and other fancy gadgets are not mentioned. Perhaps this is for the best since a monographic publication cannot present the latest in hardware developments.

Security methods for data, but not hardware, are mentioned. Since many librarians are responsible for maintaining public use microcomputers, a brief description of available hardware security devices seems warranted.

The author has taken the time to list all of the organizations mentioned in

the text. This will be useful to some extent, but a much more valuable appendix would have been a list of periodicals containing microcomputer information. A list of library-related journals and nonlibrary journals would offer much assistance to new microcomputer users struggling to understand hardware and software. An index would be helpful and would have been a clever way to demonstrate indexing software as described in chapter 6.

The author's writing style is easy to read and understand. While some of the information presented is useful, the book taken as a whole is of questionable value. A library school student or librarian new to microcomputers may benefit from this book but will still have to look to other sources for current information.—*Janet Woody, Virginia Commonwealth University, Richmond.*

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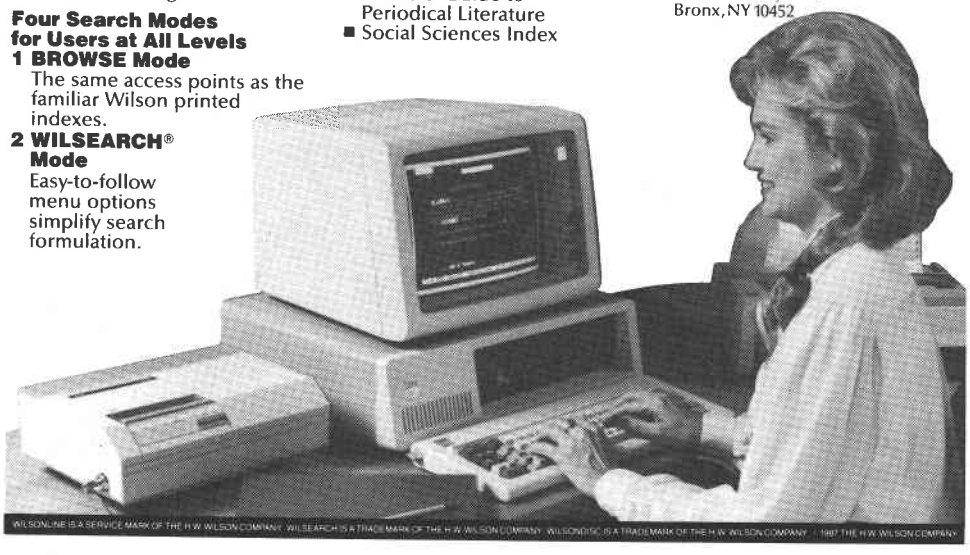

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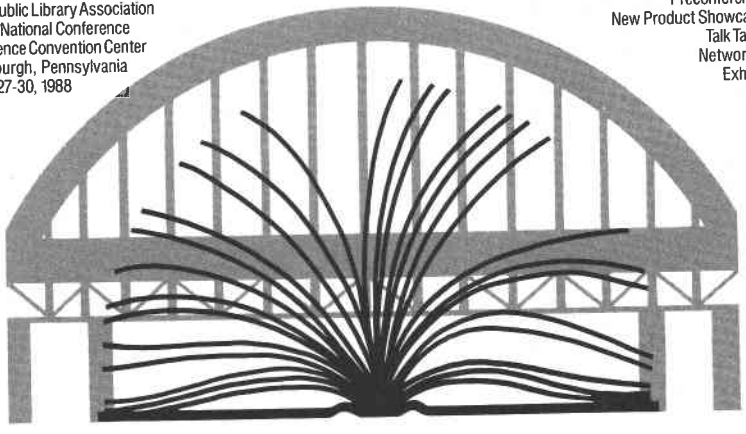

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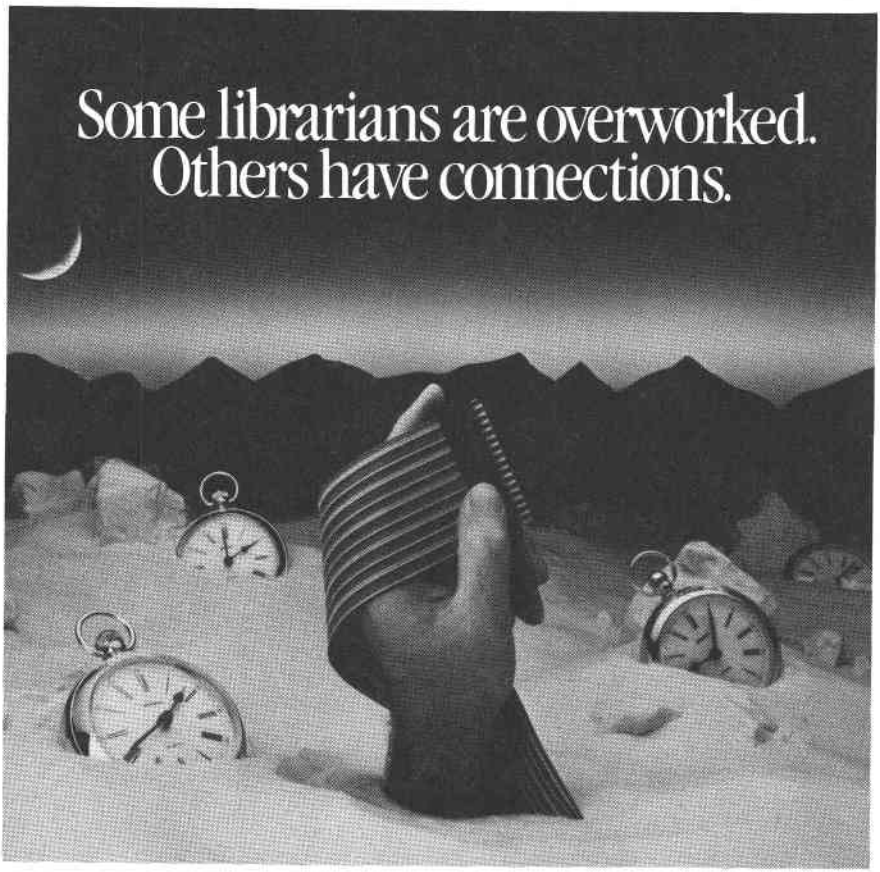

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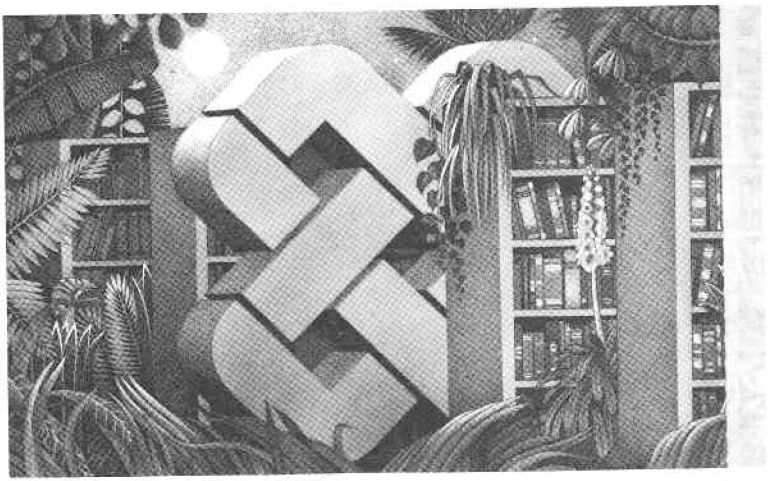

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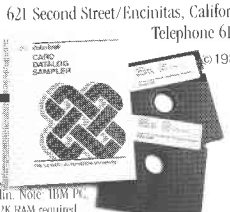

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