

LIBRARY RESOURCES & TECHNICAL SERVICES

VOLUME 37, NUMBER 3

JULY 1993

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37(3): 249-344 ISSN 0024-2527

AMERICAN LIBRARY ASSOCIATION

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Library Resources & Technical Services (ISSN 0024-2527), the quarterly official publication of the Association for Library Collections & Technical Services, a division of the American Library Association, is published at ALA Headquarters, 50 E. Huron St., Chicago, IL 60611. *Business Manager:* Karen Muller, Executive Director, Association for Library Collections & Technical Services, a division of the American Library Association. Send manuscripts to the *Editorial Office:* Richard P. Smiraglia, Editor, *Library Resources & Technical Services*, Palmer School of Library and Information Science, Long Island University, Brookville, NY 11548; (516) 299-2174; fax (516) 626-2665; Bitnet: SMIRAGLIA@LIUVAX; Internet: SMIRAGLIA@VAX86.LIU-NET.EDU. Advertising Sales Manager, Stuart M. Foster; Advertising Coordinator, Dolores L. LaPointe, c/o Choice, 100 Riverview Center, Middletown, CT 06457, phone (203) 347-6933. *ALA Production Services:* Eileen Mahoney, Dianne M. Rooney, Bruce Frausto; and Donovan Vicha. *Subscription Price:* to members of the Association for Library Collections & Technical Services, \$22.50 per year, included in the membership dues; to nonmembers, \$45 per year in U.S., \$55 per year in Canada and other foreign countries. Single copies, \$14.

Second-class postage paid at Chicago, Illinois, and at additional mailing offices. POSTMASTER: Send address changes to *Library Resources & Technical Services*, 50 E. Huron St., Chicago, IL 60611.

Library Resources & Technical Services is indexed in *Library Literature*, *Library & Information Science Abstracts*, *Current Index to Journals in Education*, *Science Citation Index*, and *Information Science Abstracts*. Contents are listed in *CALL (Current American—Library Literature)*. Its reviews are included in *Book Review Digest*, *Book Review Index*, and *Review of Reviews*.

Instructions for authors appear on p. 119–20 of the January 1993 issue of *Library Resources & Technical Services*. Copies of books for review should be addressed to book review editor, Lawrence W. S. Auld, Department of Library and Educational Technology Studies, 215 Joyner Library, East Carolina University, Greenville, NC 27858-4353; Bitnet LSAULD@ECUVM; Internet LSAULD@ECUVM.CIS.ECU.EDU.

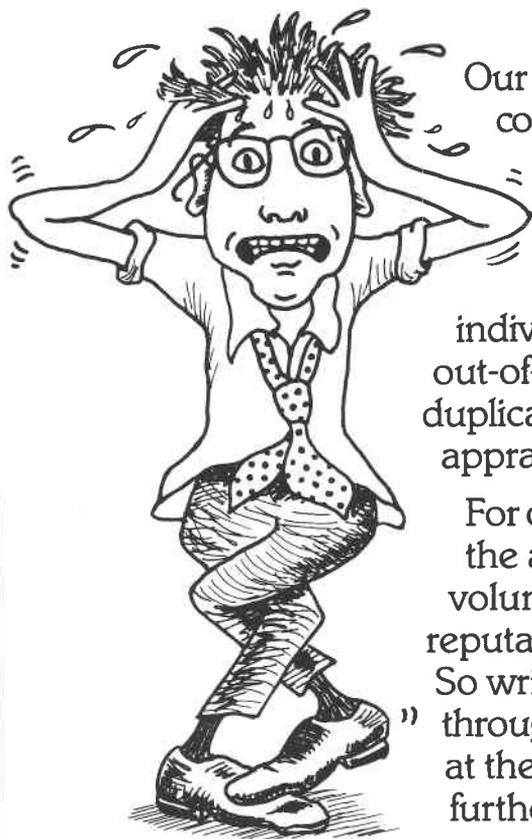
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The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences—Permanence of Paper for Printed Library Materials, ANSI Z39.48-1984. ∞

Publication in *Library Resources & Technical Services* does not imply official endorsement by the Association for Library Collections & Technical Services nor by ALA, and the assumption of editorial responsibility is not to be construed as endorsement of the opinions expressed by the editor or individual contributors.

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A Closer World: A Review of Acquisitions Literature, 1992

Lisa German

The year 1992 saw acquisitions departments trying to do more with fewer resources. Acquisitions librarians are grappling with changing technology by adapting, learning, and discussing problems that all face. The literature of acquisitions in 1992 is examined in several categories: acquisitions organization, conference reports, pricing issues and budgetary concerns, vendor performance, electronic publishing, automation, and acquisitions abroad. The proliferation of electronic communications is having a profound impact on acquisitions. Issues of access versus ownership, copyright, and storage of electronic media are becoming a part of the business of acquisitions.

In 1990 Karen Schmidt wrote that acquisitions librarians wanted more—"more education, more appreciation, and more professional responsibility." The year 1992 saw acquisitions departments trying to do more with fewer resources. An entire *Library Acquisitions: Practice & Theory*, ably edited by Barbara Winters, was devoted to looking at ways libraries reorganize themselves. Do libraries reorganize for reasons of cost effectiveness, to gain productivity, as a response to technological advances, or to improve workflow (Winters[B])? Articles on serial pricing issues also dominated the literature of 1992, along with conference reports and issues of electronic publishing. Acquisitions librarians are grappling with changing technology by adapting, learning, and discussing the problems facing all of us. Formerly, colleagues might discuss these problems on the phone or perhaps by correspondence. However, 1992 saw a huge growth in the numbers of subscribers to electronic newsletters such as *ACQNET* and the

Newsletter on Serial Pricing Issues. Internet has brought many of us closer together—it is a medium for exchanging research and ideas and lending support. Through the quickness and ease of electronic communication, somehow the world seems a little smaller.

ACQUISITIONS ORGANIZATION

1992 was a banner year for reorganizing acquisitions departments in academic libraries. Barker writes that the impetus for reorganization at Berkeley was both the vision and strengths of the personalities involved and an attempt to save money. Jasper asserts that, at Emory, changes in key staff positions were the motivation for change. Ogburn notes that the need to consolidate acquisitions activities under one department was the motivation for change at Yale; at the University of Wisconsin-Madison, the advent of a new automated system spurred an organizational change. McCombs writes that the "cycles of convergence and divergence can be

seen in most creative professions and are essential for separating the forces for change and stability in order to reconcile them better." Organizational restructuring to effect a positive change was a dominant theme in the literature of acquisitions.

CONFERENCE REPORTS

Conference highlights were widely reported in acquisitions literature of 1992. At Feather River, Maxwell discusses the different facets of acquisitions librarianship and concludes the acquisitions librarian wears four hats—the top hat is the business manager's and we constantly balance conflicting needs and roles. Brumley discusses the personnel manager hat worn by acquisitions librarians and the influences of unions, the bureaucracy, and the librarian's roles on personnel management. Fisher concludes that issues of access to information rather than ownership of information will eventually be of paramount concern. Automation of acquisitions processes and the use of expert systems in acquisitions were other Feather River topics presented by Smith, Smadi, and Zager. Hawks (A) recounts the themes of the future of electronic journals and resources and the funding problems for libraries in an overview of the Charleston Conference, the North American Serials Interest Group Annual Conference, the Society for Scholarly Publishing, and the Issues in Book and Serial Acquisition conferences. Very fine articles abound on the ALA Annual Conference and Midwinter Meeting, along with a report by Ivins on the Oklahoma conference (B).

PRICING ISSUES AND BUDGETARY CONCERNS

By far, the greatest number of articles in acquisitions literature reflect budgetary concerns and the effects of spiraling journal costs on library material budgets. Alexander's study of periodical prices confirms what we all know—that the prices of scientific, technological, and medical journals have been escalating at double-digit percentage rates for the last two years. Fergu-

son reports that, at the ALA Midwinter Meeting of the Chief Collection Development Officers of Large Research Libraries Discussion Group, 74% of the thirty-eight libraries represented said that they were involved in a serials review project and two others said that this was an ongoing concern. The theme of the high costs of periodicals and the ways some libraries are trying to cope is repeated in the literature with insightful articles by Frazer, Christensen, and Knee and in articles occurring in the online journal edited by Marcia Tuttle, *Newsletter on Serial Pricing Issues (NSPI)*. It is also a prevalent topic on SERIALST, the companion listserv to the NSPI.

The topic of journal price discrimination is covered in articles by Dorn and Haley and Talaga. Dorn asserts that there should be one price based on the currency rates of the day, while Haley and Talaga put forth ways in which libraries might deal with price discrimination.

The subject of higher materials costs, which was a hot topic of the 1980s, will not go away, especially because inflation is down worldwide but the costs of journals keep escalating.

VENDOR PERFORMANCE

Articles by the Vendor Study Group of the Association for Higher Education of North Texas and by Kilton and Sewell discuss ways to determine cost-efficient vendor performance or to discover whether libraries were satisfied with their vendors. Kilton and Sewell describe the survey developed by the Western European Specialists Section of the Association of College and Research Libraries. They report that the results of the survey indicate a general feeling of satisfaction by libraries with the vendors they use. The Vendor Study Group constructed an evaluation tool with which libraries could track order fulfillment. With materials costs escalating, vendor performance will be scrutinized closely.

ELECTRONIC PUBLISHING

With Internet traffic becoming heavier

and the costs of print serials rising, the field of electronic publishing has become a frequent topic in acquisitions literature. Katz and Getz discuss electronic publishing from economists' points of view. Electronic publishing is fast, economical, and comparatively inexpensive. But what of the implications of access versus ownership, cataloging, archiving, and copyright? The MIT Libraries Task Force presents its discussion on those issues. An overview of the copyright issues as they pertain to electronic media can be found in an article by Valauskas. These questions (and those we have not even thought of) are going to be around for some time. Electronic publishing is in its infancy; however, it is growing up very fast.

AUTOMATION

Fewer articles on automation appear in acquisitions literature than in years past. Hawks explains the development of the OhioLink experience—a network that will link seventeen state university libraries, each using an integrated library system. Several vendors have products that are available via the Internet, one of the newest being *Blackwell's New Titles Database*. A profile of this service can be found in an article by Brian Alley.

ACQUISITIONS ABROAD

Three articles focusing on different facets of acquisitions work in Nigeria prove quite interesting. Akob discusses how changing Nigerian governmental policies have affected the acquisition of library materials. The ever-increasing reliance on bookfairs is the theme of an article by Obokoh and Salami. The Nigerian economic programs of structural adjustment and the Second Tier Foreign Exchange Market and their effects on library acquisitions are highlighted in an article by Adaramola. Each of these articles focuses on the struggle of Nigerian libraries to provide access to literature to scholars in their nation. On a different note, the Latin American perspective on serials acquisitions is detailed in articles by Grover, Hallewell, Morgner, and Van Jacob.

CONCLUSION

The proliferation of electronic publishing, automation, and Internet communications is having a profound influence on how we do our work. We are communicating more frequently, using different methods, in a more familiar way, often with people we have not met. Issues of access versus ownership, copyright, and storage of electronic media are becoming a part of the business of acquisitions. It is an exciting prospect.

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The Year's Work in Descriptive Cataloging, 1992

Gunnar Knutson

The descriptive cataloging literature of 1992 is examined. A number of works deal with the cataloging of special materials. Work in artificial intelligence and expert systems is drawing increased attention, as is the problem of dealing with nonroman scripts in the online environment. Critical analyses of the Machine-Readable Cataloging (MARC) formats are also notable. The practicing cataloger is faced with the familiar dilemma of needing to improve cataloging techniques in the here and now, which almost inevitably means incremental change and the desire for a broader vision of the future. The literature shows good efforts in both areas but leaves many fundamental questions unanswered.

Many of today's generation of catalogers have experienced the complete change from manual to online cataloging. Change has been a constant in our careers, but stepping back and looking at the overall picture we will still recognize the basic functions of the library. Cataloging literature reflects this dichotomy; it is a mixture of forward looking, even visionary proposals, and a great deal more of the everyday problems that are central to our daily tasks. Research must deal with both levels.

The descriptive cataloging literature of 1992 covered its usual wide range of topics, with many reports describing or suggesting practical methods of improving cataloging methods. A notable emphasis this year was the number of works dealing with the cataloging of special materials. Work in artificial intelligence and expert systems is drawing increased attention, as is the problem of dealing with nonroman scripts in the online environment. Critical analyses

of the Machine-Readable Cataloging (MARC) formats are also notable features.

CATALOGING SIMPLIFICATION AND IMPROVED PRACTICES

The task of providing economical yet fully satisfactory catalog access for library users is a major challenge in a time of diminished resources. Furthermore, this task must be carried out at a time when technology is expanding the range of possible functions of a library. Calls for cataloging simplification are highly relevant but must also take into account all of the present and future functions we would like the catalog to perform. The year's literature in these areas is basically divided into two categories: cataloging simplification and improved work processes to increase production and/or lower costs.

Minimal-level cataloging has been proposed as the most direct way of lowering costs through elimination of various parts

of the catalog record. In addition to the elimination of subject headings, the description itself might be shortened. A danger is that, if there is not a well-founded general agreement on what ISBD elements should constitute the minimum description, various national libraries might initiate differing policies.

In response to this situation, Lambrecht conducted a study of the minimal-level cataloging done by national bibliographic agencies. He reports surprisingly little consensus on what should constitute a minimum description, with only four of the twenty currently mandatory ISBD elements (title proper, edition statement, name of publisher, and date) agreed upon as mandatory. Nine other elements, such as other title information and statement of responsibility, are deemed either necessary or desirable. Lambrecht recommends making seven other elements, including illustration statement and series ISSN, optional. In an equally important part of the book, he points out some flaws in arguments advanced on minimal-level cataloging.

There has been too little solid research on the topic since the University of Bath studies in the early 1980s; we do not know much about the effect on user access or how great the savings really are. Cutting descriptive elements might have only a marginal effect on cataloging costs and at the same time limit what a library might wish to do in the future to enhance its catalog. Beheshti demonstrates how even the physical description of a book (a favorite target of simplification) might be put to a novel use by incorporating it in an object-oriented online catalog display.

The best insight is gained through practice. Preliminary (level-5) Library of Congress (LC) cataloging records loaded into the database of the OCLC Online Computer Library Center, Inc., in 1990 were studied by Preece and Fox, who also surveyed other ARL libraries on their experiences. They report that these records have been of negligible value because they require so much additional local work. An estimated 171,000 level-5 records were in the OCLC database in 1991 when loading ceased. In a related area,

Patton presents a history of less-than-full cataloging and the K-level record on OCLC. At the time of writing, K-level records represented 18% of the OCLC database, a steady increase that reflects pressures on libraries to provide some level of access to uncataloged materials.

Two separate reports on minimal-level cataloging of video materials, by Handman (1991) and Horny (1991), give indications of how careful one must be in dealing with a medium for which known-item searching is rare. No real savings result if patrons cannot locate the cataloged materials. The Northwestern records described by Horny are designed to meet the requirements of staff and users and take advantage of the online search capabilities, with the result that they are far from the pared-down record usually associated with minimal-level cataloging.

Soules, Lucas, and Pritts report on a University of Michigan project to simplify the cataloging of working papers using the Research Libraries Information Network (RLIN) so that student assistants could do the work using a "template" approach. The objective was achieved, but at the cost of more permanent staff time than planned.

Any streamlining of cataloging is likely to involve increased responsibility for paraprofessionals, thus further blurring traditional organizational distinctions. Walton and Botero report mixed success in using professional/nonprofessional team cataloging—original monographic cataloging and priority cataloging increased but total cataloging declined. An example of using paraprofessional catalogers at all levels in an academic library, including original cataloging, is reported by Benaud. Supervisory responsibilities and professional development soon become issues, especially when faculty status is involved. The author concludes by calling for a whole rethinking of the traditional copy/original cataloging divisions in light of current experience. One can imagine that the practice of having paraprofessionals do more original cataloging will also increase through advances in the development of expert systems, which are discussed in a separate section of this paper.

Copy cataloging has long been used as

a way to add quality records to a catalog at minimal expense and should be considered as part of the simplification process. LC has published new information on its copy cataloging procedures for selected sound recordings and for books that had been in arrearage for more than three years. This contributed to a record high number of titles cataloged in the last fiscal year. Thomas (B) reports on the November 1992 joint CONSER/NCCP meeting to explore further the possibilities of a coordinated cooperative cataloging program to deal with backlogs.

The Council on Library Resources (CLR) has also been involved in discussions on improving bibliographic access. Mandel's summary of recent discussions of CLR's Bibliographic Services Study Committee (BSSC) provides a wide overview of future possibilities. The catalog of the future might act as a gateway to more information, with wider access to the current collections and better retrieval techniques. In the more immediate future, the BSSC discussions encouraged libraries to become more accepting of copy cataloging so that it becomes basically a check-in process. They also note an unnecessary complexity in parts of descriptive cataloging.

Studies that give a better understanding of the true costs of different parts of the cataloging process are valuable in determining where resources might be saved. An ongoing longitudinal study of automated cataloging at the University of Iowa is summarized by Morris, who reports unexpectedly high costs in areas of authority control and recataloging. The serials component of the study is treated separately by Osmus and Morris. Burger provides a computer-assisted model of the growth and decline of cataloging backlogs that may lead to a better understanding of this problem in the future.

Although research tends to focus on larger, established libraries, it is important to note that studies are also being done in very different settings. Herlihy reports that, in the rare case of a new academic library opening, it might be more economical to purchase cataloging records than to start from scratch. At the University of

Botswana, a workflow study showed that it was clearly advantageous to purchase LC card sets (Jenda).

The reports as a whole do not represent a breakthrough in concepts of cataloging simplification, though the Lambrecht study fulfills the important task of succinctly framing the questions about minimal-level cataloging. Experiments with different cataloging processes might lead to significant savings. More research is clearly called for in this area.

Those interested in doing research in this and other areas will want to begin with Simpson's review of technical services research from 1988 through 1991. He especially notes the need for more experimental work and more replication to test findings.

ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEMS

This was an area of considerable interest for researchers in 1992, reflecting a steady growth over the last several years. These developments are inspired by the desire to transform cataloging into a less labor-intensive effort and to improve teaching processes. However, the promise of applying expert systems to routine cataloging chores still seems elusive. The literature shows a mixture of experiments along with questioning of some of the basic premises of using expert systems in cataloging.

Weibel presents an overview of three areas of research: fully automated cataloging, computer-assisted cataloging, and the automated processing of nontraditional catalog materials. Most recent published research is in the area of computer-assisted cataloging.

Fenly provides an analytical framework for determining the appropriateness of expert systems to technical services functions. After giving reasons why descriptive cataloging is not necessarily amenable to expert systems, despite its rule-based nature, he defines series authority control as a possibly appropriate area application. However, even in this limited area it would not be advisable to proceed without careful cost-benefit analysis.

Experiments have necessarily focused

on limited areas of descriptive cataloging. Ercegovac and Borko (A) report on the design and implementation of an experimental system called Mapper, which provides expert advice to the intermittent user for the descriptive cataloging of maps. Library students with no map-cataloging expertise were tested. The authors' evaluation (B) shows that Mapper produced good results and had a favorable reception from its users. Ercegovac also reports separately on details of how expert knowledge in the realm of descriptive cataloging of maps was elicited.

Tessier describes a HyperCard approach to teaching the first part of chapter 21 of *Anglo-American Cataloguing Rules*, second edition (AACR2). Preliminary results were encouraging. The author proposes the possibility of expanding the concept to creation of a multidimensional workstation for catalogers. Grumling offers another view of how Hypertext might be designed to provide different levels of information to a novice or an experienced user. Because of limitations in how much information can be stored and processed by current systems, expert systems applications must be limited to specific areas. Abrera and Shaw conducted a study of the use of AACR2 rules in a practice collection of monographs and confirmed that a limited number of potentially applicable rules in chapters 1-2 and 21-25 were actually used for cataloging, while just twenty-five rules accounted for 90% of all uses. The results indicate that there is a core set of rules for cataloging instruction and that expert systems need to focus on these rules.

A major experiment involved the CatTutor prototype developed at the National Agricultural Library. CatTutor was designed to aid both novice and expert catalogers of computer files. Thomas (A) reports on the development and evaluation of this system. It is sobering to note that, despite its achievements, after considerable expense and effort the initial assessments found the system in some ways unsatisfactory for both novices and experienced catalogers. The system also requires workstations with considerable memory that

is not always available locally. Thomas poses a larger question: Is the development of elaborate expert systems taking cataloging in the right direction or should we concentrate on simplicity and basic principles?

One further note is that the experimental systems thus far developed do not seem to incorporate LC rule interpretations. An experienced cataloger would surely wish to have easy access to them in addition to information from AACR2.

AACR2, MARC, AND CATALOGING STANDARDS

Most studies dealing with AACR2 focused on particular areas that are dealt with in the section on special materials. Overviews of the code and standardized cataloging were the subjects of two notable collections.

Presentations given at a series of institutes following the publication of the revised cataloging code now form the basis of *Origins, Content, and Future of AACR2 Revised* (Smiraglia [B]). Significant changes to the code are covered by experts in each area. Background information is also presented, and Smiraglia (A) describes the continuous revision process that brings about evolutionary changes to AACR2. A symposium section gives readers a range of possibilities for the future of cataloging. Gorman (A), Carpenter (B), Intner (A), Thomas, Tillett (B), and Wajenberg offer visions of what AACR2 and future catalogs might look like. All catalogers will profit from comparing these viewpoints.

Cataloging Heresy, edited by Weinberg, is a collection of proceedings from a 1991 conference of the same name. The conference was designed in part to question standard descriptive cataloging practices. In one of the papers Anderson disputes the belief that descriptive cataloging is really a neutral process. Among the examples he gives is the use of romanization in cataloging, a practice that is not neutral to the most frequent users of the materials described. Intner (C) provides an educator's perspective. Teaching people to discriminate about application of standards would be a costly process. It would require

both a thorough understanding of the standards and of the underlying principles involved and a different sort of training that encourages difficult decision making.

The case for standards is also represented as Byrum gives a view from the LC perspective. Technology, he points out, has thus far locked us into standards rather than freeing us from them because it is only through standardization that data can readily be shared. LC estimates that their centralized cataloging saves libraries \$370 million annually.

In a separately published British study, Brunt reviews cataloging history and states his hope that a machine-readable version of AACR2 might help make the code more compatible with the online catalog.

Cutter's statement that "the convenience of the user should be preferred to the ease of the cataloger" is a starting point for a study of how cataloging codes have been created. Hufford (1991) reviews the history of British and American cataloging codes from this perspective and finds that empirical studies of users are lacking. Use of such research in future code revision is recommended.

Progress continues to be made in analyses of the MARC format. In 1992 Tillett completed a series of articles on bibliographic relationships. Her study of LCMARC records (A) shows that nearly three-fourths exhibited bibliographic relationships with other records. A related study (C) deals with the history of linking devices in catalog records and demonstrates how many such devices from older catalog forms were merely transferred to the online format without a reconceptualization of how their functions could be transformed in the new environment. Leazer examined the USMARC formats and found a high degree of redundancy, with even highly specific information (such as fields 034 and 255 in the maps format) being recorded in separate fields. He calls for major rethinking to develop what is currently lacking—a conceptual schema for the MARC formats.

In the international arena, Bokos and Majumder report on the adoption of UNIMARC at the national libraries of

Greece and India, respectively. Chibisenkova describes movement towards standardization at the Russian State Library.

AUTHORITY CONTROL AND BIBLIOGRAPHIC MAINTENANCE

The years' publications show the continued importance of authority work and the gradual movement towards greater transnational cooperation. International standardization of authority control formats has become more important with the IFLA-sponsored publication of the UNIMARC authorities format. In anticipation of a time when USMARC authority records may be converted to UNIMARC for information sharing, Truitt compared the two formats. Major disadvantages of the UNIMARC format appear to be the inability to specify earlier/later forms of headings and lack of a reference evaluation code. USMARC records appear to lack explicit interrecord links, perhaps because the format retains vestiges of the authority card. Truitt concludes that extensive enhancements will be needed before USMARC authorities can be transferred to UNIMARC.

The prospect of international authorities exchange is also addressed in a study by Jones of monographic cataloging done by the British Library and LC. Compared to a study of the earliest MARC records, there has been a considerable movement towards agreement on choice and form of entry in online records created by the two libraries. LC's "compatible" name headings remain a problem—another reminder of the long-term price of not fully adhering to standards. Other problems are mostly attributed to cataloging context rather than any deficiencies in the code. Jones comments on the advantages of developing a joint LC-UKM name authority file.

Because of their dynamic nature, authority files require continual monitoring and updating. A thirty-day study of the LC authority files on OCLC, by Calhoun and Oskins, reveals an average of 405 changes per production day (excluding minor changes). Maintenance of consistency

in a local catalog after the initial creation of an authority file therefore is an ongoing challenge. Given this rate of change it is encouraging to note Rogers' survey findings that, in most major research libraries, the personnel of authorities/bibliographic maintenance units retain a positive outlook on automation changes and the future.

Halverson, Gomez, and Marner recount the creation of an authority file section in a university library. Maccaferri presents an overview of authority control in the retrospective conversion process and concludes that, while it is neither inexpensive nor perfect, the available options have greatly improved in recent years. Authority control poses exceptional challenges in some specialized databases. Meyer describes the creation of authority records for GPO documents and concludes that a reasonable level of control can be achieved, while Park outlines the process for special libraries.

Effects of a lack of total authority control in a database are difficult to measure. Taylor did a study of a sample of 450 OCLC bibliographic records and found matching LC authority records for 60% of the personal names. Names with matching authority records are less likely to be entered erroneously into OCLC. Between 17.7% and 24.1% of personal names in the catalog appear to be in forms that might adversely affect searching, and a logical next step would be to devise better computer programs to facilitate corrections.

The Getty Art History Information Program is currently occupied with a program to match the varied names of artists so that museum collections can better share data. Borgman and Siegfried report on its progress and also provide a summary of sixteen similar projects (including the OCLC Duplicate Detection Project). They say there is surprisingly little agreement on the best approach to this difficult problem. Toney describes the deduplication of a large, non-MARC database of international conservation literature and information. A matching algorithm allowed correction of a large number of errors, but many records still required human review to determine whether they were actual duplicates and other types of

errors could not be detected. Advantages and disadvantages of methods are discussed. The findings are generally consistent with Ridley, who tells of use of an expert system for quality control and duplicate detection in the catalog of the University of Bradford. Duplicate detection is much easier than quality control.

It is also interesting to note that, for all of the sophistication of authority control and conflict detection, there is still no simple way of eliminating the effects of human error from the catalog. The most basic of all mistakes, spelling and typographical errors, still escape review and can hinder access in an online catalog. Ballard and Lifshin detail a method of finding such errors through a keyword inventory and provide a list of common errors.

RETROSPECTIVE CONVERSION

Once again there is a surprising amount of material dealing with retrospective conversion. Those about to begin a project might wish to consult Hseuh's extensive bibliography of works on this topic published between 1980 and 1990. Lentz presents another survey of the literature, with a focus on establishing standards of quality.

In addition to the bibliographies there are reports of various projects. A recent descriptive account of conversion methods at a medium-sized academic library on the WLN system is given by Bolin and Wright.

Many libraries have decided to load GPO tapes as a way of quickly adding retrospective document collections to the catalog. Romans gives valuable advice on profiling for such a tape load, noting that the time may be spent in advance or in clean-up but will be spent nevertheless. Loading documents can be complicated by the fact that many libraries are only selective depositories. When several selective depositories also form a union catalog of such holdings, the challenge increases. Such a cooperative retrospective conversion between Bryn Mawr, Haverford, and Swarthmore is described by Regueiro et al.

The wealth of information on conversion projects suggests that such detailed and specialized studies might be of partic-

ular interest. Koth and Green focus on the difficulties of converting records for scores, an area that is often among the last to be completed. This comparative study of four OCLC and three RLIN libraries of different sizes is especially helpful because of the workflow descriptions and assessments of the advantages and disadvantages of each approach to conversion. Serials are also a perennial difficulty in conversion. Christ and Lin use a question-and-answer approach to share experiences in serials conversion at the University of Iowa. Among the difficulties noted were the higher level of staff needed to edit serial records taken from a national database and the necessity of recataloging some of the titles. Another project, reported by Sandore, involved the use of a specially configured staff workstation to convert records for a computer science collection. This is also another example of using a combination of technology and nonprofessional staff to accomplish the cataloging.

Retrospective conversion is well under way in Europe. Proceedings of a 1990 conference, edited by Kaltwasser and Smet-hurst, are now available to show the breadth of these efforts.

The 1992 literature indicates that, while many large retrospective conversion projects may have been completed, there is still a great deal of interest in converting specialized collections of all sorts. Not coincidentally, these are also among the most troublesome collections to deal with. The body of literature that now exists should offer practical guidance on many fronts.

ROMANIZATION AND STANDARDIZATION OF ACCESS

Recent years have seen a gradual increase in the amount of nonroman description in library catalogs. This has put increased pressure on libraries to improve online access to the material through easier search mechanisms. At the same time there is a growing awareness that ethnocentric cataloging runs against the spirit of the times. Although we are a long way from an easy solution to the access problem, the

volume of research reported in 1992 marks it as an ongoing concern.

The traditional American solution, romanization, has been a necessary compromise. LC proposals to switch from Wade-Giles to Pinyin for romanization of Chinese prompted an experiment with matching tests followed by questionnaires at Texas A&M. Young reports that users performed better with Pinyin and also expressed a preference for it. Catalogers with only a limited knowledge of the intricacies of Chinese names will appreciate Harrison's report on the difficulties of romanization. Chinese names may be romanized from a number of dialects and may follow no recognizable system, which puts an added responsibility on catalogers to provide all possible references to the accepted form.

One way to deal with nonroman names is to provide interfaces permitting online searching and retrieval in the original script, while the bibliographic record is stored (and also accessible) in a romanized form. Aising presents one such experimental application for Cyrillic characters that can be represented through a one-to-one romanization of the original. Vernon (1991) describes special problems for languages without vowel diacritics, such as Arabic and Hebrew.

Networks such as Internet have made it possible to browse nonroman materials in a way hardly dreamed of in past decades. Jamieson describes the many online catalogs of Oriental language material currently available on Internet, which catalogs are the easiest to use, which few allow access in the original script, and what an ideal catalog would be. Although all existing catalogs are compromises, they are advances, and the direction of change is promising.

Aliprand presents a strong case for viewing romanization as information distortion that leads to loss of distinctions present in the original language. Adoption of a universal character set compatible with the USMARC format, perhaps the Unicode character repertoire, is a possible solution. Peruginelli, Bergamin, and Amendola describe the progress toward a basic European character set.

No character set will settle all problems of name access, however. Kaltwasser reminds readers that the 1969 IMCE recommendations that names be entered under the form in the original language has been circumvented in large part by AACR2. Unless this problem is solved there will be difficulties in transborder data exchange.

SPECIAL MATERIALS

Intner (A) states that one of the major problems with AACR2 is its "artificial separation of materials according to a set of outmoded media groupings." The year's work shows a good deal of interest in non-book materials, particularly as they begin to overlap more and more between cataloging categories. Rare books, archival materials, maps, scores, serials, computer files, and the community information format all received attention. Format integration is a step toward dealing with this situation, but the underlying problems appear to call for more study and research.

Adkins urges more libraries to do online cataloging of their rare books collections, noting the need to also retain local access files for special features of the material. She calls for the creation of a single cataloging tool that would incorporate both MARC instructions and special thesauri. Stalker and Dooley present views on making descriptive cataloging of rare books simpler, more effective, and more affordable. Elliott and Bakke report on the perhaps unique cataloging practices of a special library that is applying LC's descriptive practices for rare books to records for nineteenth-century scores. Because ISBD description and AACR2 rules create problems in displaying the original appearance of the title page, copious notes are used in the local record to preserve such information for scholars. The frustration of not having this full information appear on the master record in OCLC remains, however. Two views of this larger problem are given by Bishoff and Patton, who present the case for sharing information nationally through master bibliographic records on OCLC, and by Glazier, who describes the RLIN practice of allowing

each library's customized record to reside in the shared catalog.

Cataloging of archival materials produced some interesting research in 1992. The Archives and Manuscripts format has had a great challenge while being applied to the complex Vatican Archives. Blouin reviews progress to date and reports that the MARC AMC format has been adaptable to nearly all needs. It appears that the format will be able to accommodate the record structure of nearly any modern bureaucracy. Yakel reports more specifically on the MARC AMC format used in the project. The 555 Finding Aids Note field might not provide enough information for all types of libraries, and the 580 Linking Entry Complexity Note is also insufficient to express certain relationships.

If the ultimate goal of cataloging is access, it would seem that there should be more research measuring the practical effects of cataloging policies. Leazer (A) provides an example of such information through an analysis of keyword searching to retrieve musical works on sound recordings. His sample indicates that keyword searching can be an effective means of retrieval and could be more effective if contents notes were always provided and searching could be limited to the 505 field. The alternative, providing author-title entries for each work on a recording would work as well or better but would also be more expensive. In a related area, Burbank and Henigman describe problems in retrieving music materials with sharp and flat symbols in the uniform title. Troutman also notes that uniform titles cause many of the retrieval problems for music materials in online catalogs. Innovative uses of descriptive details such as publisher's name and number in searching can also improve access.

The descriptive cataloging of serials received a good deal of attention in the past year, with many of the articles appearing in two special issues of *The Serials Librarian*. Those especially interested in serials cataloging might want to begin with Williams' five-year bibliographic review.

Case and Randall tell of an informal user survey that supports the use of latest

entry cataloging of serials and also report their ARL survey showing that slightly less than half of the responding libraries follow AACR2 to the extent of using successive entry cataloging only. McMillan describes processing of electronic journals on a VTLIS catalog and demonstrates how the MARC serials record need be modified only slightly to alert users to the presence of an electronic version of a serial.

In other serials matters, Cole suggests a rule interpretation to expand the definition of title page. Madison presents the case for retaining name main entry for serials in the online catalog. Graham details the complex history of the treatment of microform reproductions and multiple versions and the proposed solution of using a hierarchical technique to display holdings data.

Newspaper cataloging adds complications of its own to the serials format. Butler describes the U.S. Newspaper Program and offers insights into some of the more difficult descriptive areas, along with information on how the program tries to deal with them in a practical manner.

On the international scene, Clark and Jones report on the National Library of Canada's policy in handling microform reproductions of serials and note its advantages. Mullis (A) describes the implementation of AACR2 for serials cataloging in Great Britain and reports sentiment for less elaboration in record description. Studies by Callahan and Mullis (B) indicate that, despite 1988 revisions to ISBD(S) and AACR2 that bring them into a general harmony, there remain many minor discrepancies between the two versions.

Another area receiving much attention in the literature is chapter 9 of AACR2. Intner (B) notes the general problem of defining an edition of an electronic document and comments on special descriptive data that might be required. Several experiments were described. Leahy and Smith report on an experiment to catalog 300 electronic files. While there were a number of problems, the authors feel that the cataloging code and MARC format held up well. Another experiment at cataloging computer files involved the *LEXIS*

database. Legal databases present special problems because of their dynamic nature, compounded by the fact that a cataloger cannot have the primary object in hand but must rely on vendor documentation and examination of sample documents, a situation described by McGrath. Although format integration might bring answers to some problems, there are at present no adequate cataloging guidelines to deal with remote files.

Computer conferencing has become widespread in academia. An innovative experiment was reported that dealt with the issues of archival description of such conferences. Gilliland-Swetland and Hughes combined system-generated item descriptor lists with manually coded items such as participation levels to give a truer picture of conference interactions for the historical record. This sort of creative professional cataloging effort should inspire similar experiments.

Map cataloging appears to be changing as rapidly as any of the formats. Digital cartographic databases that now exist are dynamic and, like legal databases, do not fit well into the current AACR2 categories of materials. Lai and Wong detail some perceived AACR2 rule deficiencies and also suggest a new bibliographic level fixed-field code for the maps format to better identify these items. Developments in the map cataloging field are also explored by Lang, while Womble offers a review and critique of current cataloging and its special needs.

Some specialized cataloging manuals should also be noted. Olson published manuals for cataloging computer files (A) and audiovisual materials (B), while Urbanski has covered unpublished nonprint materials. Also, new editions of standard cataloging manuals by Downing and Taylor (A) include sections on special materials.

EDUCATION AND THE PROFESSION

The long-term outlook for catalogers is as usual a subject of considerable attention. Two articles in particular offer a contrast in basic outlook. Harris feels that cataloging departments are being "deskilled" by

information technology, with clerical and paraprofessional workers assuming previously professional work, while professionals become more concentrated in administrative and systems roles. She warns that it is just such roles that are most likely to be usurped by persons external to the profession, while the overall quality of cataloging may be compromised. Gorman (1991) looks at the same conditions and foresees the "golden age" of cataloging in a future when professionals are at last able to devote full attention to nonroutine aspects of cataloging.

Research by Reser and Schuneman supports an underlying premise of both arguments—that professional technical services functions might be moving in a more demanding direction. Their large-scale content analysis of position advertisements during 1988 showed that technical services positions generally specified higher requirements than public service jobs. Paradoxically, starting salaries were lower in technical services.

It is possible that such divisions will gradually disappear. McCombs believes that the 1990s are a time of "convergent evolution" for technical services. By necessity if not choice, online catalogs and fiscal conditions have led to a convergence of library functions, with catalogers taking on more public service roles. Some traditional work of cataloging has also been dispersed to other areas, so it is possible to imagine an eventual convergence of collection development, user services, and technical services.

Upgraded professional responsibilities will require better education and working conditions. As library school programs try to prepare for the future, it is interesting to note the results of a survey of artificial intelligence and expert systems in the curriculum of fifty-one ALA programs. Kranch found that most programs tended to teach theory rather than practice. Educators named cataloging as the area most likely to be affected by AI/ES, but the author noted that faculty doubted that there would be much effect even by the turn of the century. Perhaps this feeling was influenced by the relatively low level of support equipment currently available

to catalogers. Hine's survey shows that 53% of catalogers in non-ARL libraries have workstations. The fact that this is a substantially higher figure than was reported in an earlier study of ARL libraries indicates that there is still have a long way to go before we all have the basic tools for professionalism.

CONCLUSION

A review of the literature of descriptive cataloging in 1992 shows a profession striving to meet the challenges of improving access to collections. Considerable attention was given to problems of describing special materials, to developing expert systems, and to trying to find means to streamline the cataloging process. Some version of "doing more with less" is repeated so often in the articles that it is hardly heard, but it is clear that libraries really are dealing with increasingly complex problems. More information is needed to demonstrate that techniques that streamline cataloging procedures can deliver the improved access that is being called for.

The practicing cataloger is faced with the familiar dilemma of needing to improve cataloging techniques in the here and now, which almost inevitably means incremental change, and the desire for a broader vision of the future. The literature shows good efforts in both areas but leaves many fundamental questions unanswered.

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That Elusive Concept of "Aboutness": The Year's Work in Subject Analysis, 1992

Alva T. Stone

Interest in classification theory and in facet-based systems was more evident during 1992, the year that marked the one hundredth anniversary of the birth of Ranganathan. Efforts to simplify subject cataloging routines include exploration of automatic and semiautomatic methods. Solutions to online subject searching problems might be shifting to the domain of information-retrieval experts. The 1992 subject analysis literature is examined and described using the following categories: theoretical foundations, cataloging practices, subject access in online environments, and specialized materials and topics.

The success of subject searching "depends upon the perfect coordination between the user and the system. Any major deficiency on the part of either of the two, results in search failure" (Husain and O'Brien 1992, 141). To achieve this coordination, obstacles must be overcome at every stage. The cataloger/indexer attempts a conceptual analysis, determining the "aboutness" of a document. This process is affected by often uncontrollable factors such as the document author's ability to express the subject and the cataloger's expertise, experience, and judgment. Deficiencies at the "system" stage can be found in two categories: (1) the systems used to represent and organize knowledge (i.e., classification schemes and subject headings or descriptors) and (2) the database systems used for packaging these representations and processing the search. Finally, the

users who approach a library catalog or database might have widely varying concepts of the "aboutness" of documents, differing ways of using language, and limited capacity for or willingness to engage in user training.

Given all of these variables, perfect coordination between user and system might not be possible in every situation. Nevertheless, researchers and practitioners alike continue to look for ways to minimize the search failures that have come to be associated with subject searching. Reports of such research published in 1992 are outlined in this article, which is arranged in the same order as the stages discussed above. We look first at subject theory and cataloging practices, then at the systems used for knowledge representation and arrangement, and, finally, at user-system interaction, with an addendum covering specialized materials and topics.

THEORETICAL FOUNDATIONS

The concepts of "subject" implicit in library and information science literature are categorized by Hjørland. A naive viewpoint considers that a work's title expresses its subject. Subjective idealism holds that the subject of a work is based on the individual perception and experience of the user, cataloger, author, or publisher. The notion that ideas, or a subject, exist independently of context or human perception is called objective idealism. The pragmatic view of subject analysis anticipates the needs of users when considering the subject of a document, establishing a means-goal relation between the work and users' needs. Hjørland finds weaknesses in all of these approaches, favoring instead a synthesis of them into a viewpoint called the "realist/materialist" approach. A subject is determined by evaluating and assigning priorities to the properties of a document with regard to categorization and the document's potential for the advancement of knowledge.

Svenonius (A) examines the philosophical foundation of twentieth-century classification research, looking particularly at logical positivism, linguistic analysis, and systems theory, and makes predictions about the directions future research will take. Dahlberg (A) assesses the contributions that the philosophy of science has made toward a theory of classification and its implications for the development of a new general classification system, with improvements over the *Dewey Decimal Classification (DDC)*, Library of Congress Classification (LCC), Bliss Classification 2d (BC2), and other universal schemes. Allan Wilson questions the label of "universal" classification as applied to the *DDC*, LCC, Universal Decimal Classification (UDC), and the Bibliotechno-bibliograficheskaya Klassifikatsiya (BBK). In theory, these systems represent an objective, scientific taxonomy of knowledge, rooted in pragmatism. However, each of these schemes chooses certain subjects (e.g., Christianity) for primary positions in hierarchy, while giving subhierarchies, or smaller spans of numbers, to other subjects. In doing so, composers of classifica-

tion systems make national or social ideological statements. The author notes that countries or cultures that are particularly sensitive to universal classifications are those that are underrepresented in them.

The one major scheme that might be immune to such criticism is the Colon Classification (CC), because its class numbers build themselves. This system was devised by S. R. Ranganathan (1892-1972), whose theories about knowledge classification were examined afresh in 1992, the year of the centenary of his birth. Svenonius (B) credits Ranganathan with helping to establish library science as a science. Classification in particular, with its laws, postulates, and principles, is a productive science. It is also a practical science, vis-à-vis the analytic-synthetic approach advocated by Ranganathan. Moreover, classification can be a theoretical science, considering its attempt to understand the principles underlying subject disciplines and classification languages. Bhattacharyya and Gopinath (C), in separate articles, also address Ranganathan's application of scientific method and provision of a theoretical framework to classification. Binwal highlights Ranganathan's role in recognizing the importance of growth and change in knowledge, the "Universe of Subjects" as a growing universe.

Ranganathan's work in facet analysis and knowledge organization is considered by Foskett to have implications for modern information storage and retrieval systems, particularly for the provision of user-friendly flexibility in online search construction. Both Neelameghan and Seetharama, writing separately, also see the postulates and principles devised by Ranganathan as the theoretical foundation underlying much of modern generation, storage, retrieval, and dissemination of information. Iyer empirically evaluates the postulates (the basic subject and the five categories of Personality, Matter, Energy, Space, and Time) and finds that the bond-strength between adjacent categories is so strong that subject searches structured in the P-M-E-S-T order have greater success than simple keyword or even keyword/Boolean searches. The design of

classification schemes and construction of thesauri are discussed by Ingwersen and Wormell, in relation to Ranganathan's principles and facet methodology. They conclude that Ranganathan's theories are extremely valuable to subject classification and somewhat valuable to information technology (cognitive modelling, pattern recognition, neural networks, etc.)

Other writers measure Ranganathan's influence more generally. Finks extols the "Five Laws of Library Science" as having filled an important need for identifying the mission of twentieth-century librarianship. Foskett (1991) also acknowledges the Five Laws' impact on modern librarianship service orientation and points to Ranganathan's classification theories as having stimulated the formation of classification research societies in Great Britain and the United States. Ranganathan's ideas on categories and facet analysis are much admired in Russia, according to Sukiasyan, and have influenced revisions of the major classification schemes as well as the use of class number fragments for enhanced subject access.

Gopinath (B) provides a chronology of the life and achievements of Ranganathan. Satija also outlines his life and work, but with an emphasis on events related to classification science. Sharma's review of the major contributions of Ranganathan also provides a respectable literature survey. A statistical examination of the citations to Ranganathan's writings during the last thirty years is executed by Lancaster, Zeter, and Metzler, with a summary review of the literature, showing the contexts of Ranganathan's influence.

Further attention to Ranganathan's contributions was given during the August 1992 conference of the International Society for Knowledge Organization (formed in 1989), held in Madras, India. Gopinath (A) summarizes the papers presented at that meeting, which had as its theme "Cognitive Paradigms in Knowledge Organization."

SUBJECT CATALOGING: GENERAL

A review of the literature published in 1991 on all aspects of subject analysis is

presented by Taylor. She notes that the vast majority of recent research and experiments has focused on improving subject access in online environments. Zeng reports the developments in the People's Republic of China, where libraries are abandoning their classified catalogs and adopting the Chinese Thesaurus; Chinese research on classification and indexing was greatly expanded during the 1980s, compared to the previous thirty years. New editions of Wynar's and of the Downings' textbooks on cataloging, both with substantial coverage of subject analysis, were published in 1992. A manual with very basic instruction on use of the *Library of Congress Subject Headings (LCSH)*, *LCC*, and *DDC* was written by Ferl and Millsap; it includes exercises selected to illustrate a wide variety of patterns in subject headings and class number building. Lancaster has produced a textbook on indexing and abstracting, which purports to be more comprehensive and up-to-date than other textbooks in this area.

Articles by Kautto, Keller, and Howarth look at particular management issues regarding subject cataloging. In a comparative time study involving sixteen classifiers and 581 books and using the UDC and General Finnish Subject Headings, Kautto determines that content analysis requires one-third, classification one-third, and selection of subject headings one-third of the classifier's time. Not surprisingly, there was a clear correlation between the length of experience in classification and the time required for classing. The question of using minimal-level cataloging, with no subject headings, for master's theses is investigated by Keller. She finds that, out of 371 theses tested, 64% had a title word identical to the first word of the first assigned subject heading. Provided that keyword access is available, therefore, minimal-level records for such materials is preferred to having no access, but subject headings would still provide better retrieval outcomes. Howarth gives an account of the reasons why about half of libraries do not bother to reclassify works already on the shelf when classification numbers are added, changed, or revised. The academic and public libraries in On-

tario that she surveyed report that the process is too costly and too time consuming and staff resources inadequate for such reclassification projects.

SUBJECT CATALOGING: MACHINE-ASSISTED

Computer applications for improvement in the cataloger's tools, or indeed, even for executing some of the rule-based tasks of the classifier, are becoming one of the "hot topics" of subject work. Guenther (B) delivers a description of the new USMARC Format for Classification Data and its potential uses: authority control, printing of schedules, assistance for classifiers, maintenance of class numbers, and the basis for an online shelflist and enhanced subject access. The development of the format, the types and content of records, and practical aspects of implementing the format are addressed. In an edited version of the same paper, Guenther (A) also provides illustrations of classification tags, hierarchy, complex see references, note fields, index fields, and handling of internal tables and describes the enhancements made to the software used at the Library of Congress (LC) to improve the experimental use of the USMARC version of subclass H-HG as a classifying tool. Certain problem areas in LC classification are highlighted in a paper by Micco. She states that, in order to maximize the potential of online classification records for supporting enhanced subject access, particular changes to the LC schedules and to the USMARC Format should be made before the schedules are fully converted.

The process and problems related to conversion of the online DDC to MARC format records are addressed by Beall (1992). Her paper also describes access to component parts of synthesized DDC numbers, and the tracking of hierarchical relationships not expressed by the DDC notation.

Actual use of the online DDC as a classifier's tool was the objective of an experiment conducted by the OCLC Online Computer Library Center, Inc. Vizine-Goetz (B) reports that staff built special indexes

to allow classifiers to combine keywords with DDC main classes and enhanced the DDC records by including hierarchies, LCSH headings with use frequencies, and sample bibliographic records. The user interface applied to the "electronic" DDC allows the classifier to search by single-term and complex Boolean queries, browse various indexes, and choose various display formats. In a follow-up report, Vizine-Goetz (A) summarizes the results of field tests, which revealed that Dewey classifiers liked the keyword access to words and DDC numbers, the display of related LCSH, and the currency of information. The major complaint concerned a lack of ability for scanning back and forth between adjacent DDC numbers; the programmers responded by developing a page-browsing feature to meet this need.

Computer programming has also been used to assist in the verification of subject headings. Randtke gives an account of a local program used to deal with subdivided subject headings that have no LCSH-mr records. The subdivision portion is matched against a data file containing single-letter codes representing the general or individual pattern heading subdivision lists from LC's *Subject Heading Manual: Subject Headings (SCM:SH)*. Codes for the lists for which that particular subdivision is authorized are then printed with the entire subject string, and a staff member scans the list to confirm the presence of the appropriate code for the free-floating subdivision, considering in what category the main subject heading falls. The author observes that this process would not be so cumbersome if the LCSH authority records for the main heading were coded to show what patterns (i.e., which SCM:SH lists) are appropriate for the heading. Drabenstott (B, C) strongly recommends that such enhancements to subject authority records be made and that corresponding authority records be established for individual subdivisions to designate the particular lists from which they came. Her conclusions are based on an extensive study of a large sample of subdivided subject headings from the OCLC database. Of all topical subdivisions used,

almost 46% came from the list of general (free-floating) subdivisions, and nearly 12% from *SCM:SH* pattern lists, but only 20% were explicitly established in *LCSH*. If the suggested enhancements were made, with online links between the main heading and the appropriate subdivision records, catalogers would be able to cut and paste appropriate subdivisions, some machine validation would be possible, and errors might be more easily detected and corrected. In a similar study concentrating on geographic subdivisions, Drabenstott (A) has determined that about 25% of all geographic subdivisions are those that require "indirect" order, and that 12.3% of these contained one or more errors. Analysis of the types and incidence of errors suggests that as many as three-fourths of the errors might be prevented or corrected if systems programmers write appropriate software and if (1) authority records for place names are enhanced with a field specifying the "indirect" form, (2) the "subject usage"-captioned information in 667 fields is used more consistently, and (3) coding of indirect practice for free-floating topical subdivision becomes more explicit. To complete the subdivision investigation, Drabenstott (D) also examined the data regarding time period subdivisions. In her sample she found that 59% of period subdivisions were not explicitly established in *LCSH*. Of these, 10.3% were authorized by an *LCSH* scope note or an *SCM:SH* memo, but the rest were either free-floating or derived from pattern heading lists or the classes of persons list. Drabenstott argues for the creation of online authority records for these types of period subdivisions to assist in cataloger verification and in machine validation processes. The success of algorithms for automatic detection and correction of single subfield errors within the OCLC database is indicated in a report by O'Neill. OCLC staff are now refining algorithms for detection and correction of cross-subfield-boundary errors and developing files of obsolete subject headings and commonly used geographic names for use in other types of machine validation and/or correction.

SUBJECT CATALOGING: MACHINE-EXECUTED

The discussion thus far has focused on the ways that computer programming can assist the cataloger in traditional routines associated with classification and subject authority control. But what about automatic classification and automatic indexing? Can expert systems be developed to actually execute the content analysis of a document and select class numbers and subject headings? Two separate experiments in automatic classification using Library of Congress Classification (LCC) numbers, one supervised by Larson (B) and the other by Vizine-Goetz (A), surprisingly arrived at the same result: in a listing of possible class numbers generated by their respective computer programs, the correct classification number appeared in the top ten listed numbers 75% of the time.

In Vizine-Goetz's project, LC class number records were created and then matched with the most common title keywords and the first subject headings found on monograph records already classified at those numbers. Then, when a new book is to be classified, a title keyword query is input and the system responds with a ranked-order list of possible class numbers and their captions. Larson tried several variations in his formula for "clustering" the subject-rich terms around a classification number. He finds that the best results are achieved using the new book's first subject heading, combined with plural stemming and a weighted relative-frequency matching method. This technique ranked the correct class number first on the list 46.6% of the time.

While fully automatic classification might not be possible, says Larson, a semi-automatic method, with human intervention and selection, is certainly feasible. Cosgrove and Weimann believe that "production rule"-based expert systems will produce undesirable results if applied to classification of books; they favor the "n-Cube knowledge representation" scheme, which uses a tree classification structure

and thus might be suited to modelling the reasoning process involved in classifying an item. Drabenstott, Riestler, and Dede describe the features of a prototype expert system (an "intelligent job aid") for shelflisting; the preliminary results look promising.

In contrast to the experiments in machine-executed selection of classification numbers, the approach taken by Himanka and Kautto is to automate the selection of subject headings based on pre-existing class numbers. Research libraries in Finland have a long tradition of using the classified catalog to access subject information but have only recently begun to introduce subject headings. The authors test a program that would "translate" the human-chosen UDC number to a heading from the 1988 *General Finnish Thesaurus*. Some of the fifteen subclasses tested were more problematic than others, but overall the translations seemed acceptable for 73% of the sample, while 16.6% were judged to be untranslatable.

Automatic procedures for general indexing are the subject of a chapter in Lancaster's textbook, and Milstead provides a review of several commercially available automatic indexing programs. An expert system called MedIndEx, developed for use at the National Library of Medicine, is reported in a paper delivered by Humphrey.

In an experiment involving government reports and legislative materials, Jones discusses the AIDA Project, which uses knowledge-based programs to analyze both the structure and content of a new document. In addition, through word frequencies and section headings, sentence position and other cues, it produces an output of keywords or precis to describe that document. Preliminary tests have been evaluated, and the computer results were found to be neither more nor less successful than human indexers. Jones points out that this system is very dependent on the effectiveness of the document author's language. On the other hand, the system has no "worldview" and thus the subjectivity or bias of a human indexer is eliminated.

CLASSIFICATION SYSTEMS

Williamson and Hudon are the editors of the proceedings of the Fifth International Study Conference on Classification Research, held in Toronto in 1991, sponsored by the Committee on Classification Research of the International Federation for Information and Documentation (FID). In a separately published article, Williamson (1991) summarizes the content of the forty papers presented at the conference, which had as its theme "Classification Research for Knowledge Representation and Organization."

Thomas (B) identifies many admirable features in the second edition of the Bliss scheme, particularly the many options given, such as alternative locations, favored focus devices, and degrees of specification. A broad overview of the Bliss classification, including its history, use, general structure, and techniques for handling multidisciplinary subjects, is given by Thomas (A) in a separate publication.

The superiority of the Colon Classification in its ability to accommodate new subjects is demonstrated by Husain, while Chatterjee looks at the Colon Classification in comparison to two earlier Indian schemes, the Borden scheme and Paddhati's Oriental Classification System, to assess the influence these had on Ranganathan's classificatory devices. Yan Xiao provides an overview of classification developments in the People's Republic of China during the last forty years, with an emphasis on the impact of facet analysis and synthesis.

Gilchrest addresses the status of the UDC historically and currently and discusses the evolving methods for updating and maintaining the schedule, including development of a machine-readable, multilingual authority file for UDC maintenance. Williamson proposes a technique for modernizing the UDC. She suggests that UDC classes and subclasses be mapped onto the facet structure of an existing system, such as the Bliss scheme, which is relatively up-to-date, with clear definitions and facet indications, and has been the basis for derivation of several

thesauri. In regard to faceted classifications and thesauri, Dahlberg (B) writes critically about the new German standard for construction and development of classification systems. She asserts that the standard does not recognize that faceted structures are the optimal form of classification, nor does it make any recommendation on computer applications for the creation, maintenance, and use of classification systems.

A workshop on *DDC 20* was held during the 1989 IFLA Conference, and the papers, edited by Holley, are being outlined here because they were not covered in last year's *LRTS* survey. Mitchell and Rolland-Thomas delivered separate, but similar, papers highlighting the major changes in the twentieth edition of *Dewey Decimal Classification*, including provision for new topics, correction of ambiguous directions or imprecise terminology, improved organization and better notes, summaries, introductory material, and a new "manual" section. A review of the abridged *DDC* (twelfth edition, based on the *DDC 20*) is given by Olén; her critique is generally favorable, although a Western bias is noted in the depth of class numbers allotted to languages and literatures.

A survey of the recent literature regarding use of *DDC* in various countries is provided by Sweeney (B). He reports that *DDC* is used by over 200,000 libraries in 135 countries and has been translated into thirty languages. Some of these countries have committees within their library associations charged with studying and suggesting *DDC* revisions to accommodate local needs. Three more papers present the perspectives of individual countries. Béthery indicates the wide use of *DDC* in France and points to the urgent need for a new translation of the unabridged edition. A project to develop an authorized edition of the Arabic *DDC* is reported by Aman and Shawky; major revisions were made in the treatment of Arabic language, culture, history, and the dominant religion of Islam. Even in Italy, according to Danesi, the *DDC* translators faced some difficulties because of the inherent Anglo-American

bias. For example, in Italy, Roman Catholicism is the dominant religion, but the *DDC* has a somewhat Protestant bias. Some of these problems appear to have been addressed in *DDC 20*. In fact, Beall (1991A) details the changes that were meant to "internationalize" the *DDC*, such as expansions to accommodate differences in literature, history, ethnicity, philosophy, religion, and law for various countries or cultures. She also identifies areas of the schedules where an attempt was made to "neutralize" the American perspective. Other papers dealing with either the *DDC* or the UDC treatment of a specific topic or discipline are discussed below in the special subjects section.

Apart from Micco's study on problems with the adaptability of Library of Congress Classification to the USMARC Format and its anticipated use for optimizing subject access, no other 1992 publications concerning the LCC in particular were identified. However, the publication of a new tool, LC's *Subject Cataloging Manual: Classification*, first edition, deserves note. The manual is a collection of instruction sheets dealing with questions that often arise when using the LC classification system. General principles are covered, as well as filing rules, alternate class numbers, form captions, topical Cutter numbers, and classification policies relating to particular types of materials.

SUBJECT HEADINGS AND INDEXING

Shubert surveys the literature concerning the *LCSH* system for the decade of the 1980s. His listing and minimal discussion of 152 articles is meant to update an earlier bibliographic essay, covering 1944-79, written by Kirtland and Cochrane (1982). Shubert finds that, although some recent writers continue to examine the language and grammar, sparseness, bias, or currency of LC subject headings, more attention was given in the 1980s to syndetic structure and subdivisions, the development of standards (i.e., calls for a subject heading "code"), and research on ways to supplement subject access from *LCSH* by indexing other subject-rich elements in MARC

records. Studwell (B) raises a solitary voice in 1992 continuing to call for the formulation of a subject heading code. Studwell's (A) monthly columns are often critical of the *LCSH* system, which he says is not well organized, understandable, or effective. His contention is that LC resists relinquishing control over subject heading decision making, and thus the ideas, talents, and leadership of "outsiders" are not used. In fact, a statement made in February 1991 by John Byrum, now retired from LC, seems to acknowledge this but also indicates that changes are on the horizon (1992):

By way of contrast [with descriptive cataloging], subject cataloging is not an area where consultative decision-making is as regularized or as gratifying. This may be true because subject cataloging itself lacks an internationally agreed-upon basis for national or local applications—if that is even possible. However, because of the already pervasive influence that *LCSH* has on the online catalog and the growing international interest in *LCSH*, many at the Library of Congress view the development of this subject headings list and the principles controlling its application as likely to come under the increasing influence of outside users. Certainly, the subject subdivisions conference . . . is a move in that direction.

The proceedings of the Subject Subdivisions Conference, which was held in May 1991 at Airlie House, were published in 1992 under the editorship of Conway. Each of the four commissioned proposals for changing *LCSH* subdivision practices is followed by three responses (arguments in favor, arguments against, and automation implications) written by various experts invited to the conference. Conway's compilation includes the text of the six recommendations arrived at by the conferees and three additional essays on the implications of these recommendations, from the LC's perspective, from OCLC's point of view, and the impact on online catalog design. An informative "tutorial" on *LCSH* subdivisions is presented by El-Hoshy. She defines and describes the use of four types of subdivisions—form, geographic, chronological, and topical—and

covers free-floating subdivisions as well, with some background on the changes in philosophy and practice over the years. During 1992, three issues of LC's *Cataloging Service Bulletin* carried a "Subdivision Simplification Progress" column, reporting on changes principally in response to the Airlie House sixth recommendation, which urged the reduction of overly fine distinctions, consolidation of lists, and increased consistency in syntax.

Regarding the *LCSH* system more generally, Johnson and Carey are convinced that catalogers should abandon the LC rule of specificity and instead assign more subject headings, using broader terms in particular. This opinion is based on an informal survey of 167 university students, which resulted in an indication that 52% of catalog users will not find a desired item on their first search, when the most specific subject heading is assigned to the item. A study done by Tonta, however, concludes that LC appears to be increasing the number of subject headings it assigns. He analyzes 82 recent titles cataloged both by LC and the British Library, comparing the LC subject headings (averaging 3.44 headings per title) to the PRECIS strings (averaging 2.57 strings per title). The PRECIS strings have more place and period "operators" than do the LC headings, and PRECIS terminology is more up-to-date. The *LCSH* system has other strengths, such as the control over vocabulary that disallows the dispersion of subjects under synonyms. Tonta does not acknowledge the possibility that the subject matter of the bibliographic records he chose to analyze, all in the field of library and information science, might have had something to do with the assignment of more subject headings by LC catalogers than is normally the case. Several writers during 1992 examined the *LCSH* system treatment of other special subjects or disciplines; these writings are discussed below, in the special subjects section.

Although the primary focus of the present survey has been on traditional routines executed by library catalogers, subject analysis as applied by indexers for online search databases ought also to be mentioned. Milstead assesses the state of the

art of such indexing, evaluating information on current practices, including a review of "automatic" indexing packages. She determines that fully automatic indexing is not yet entirely reliable, and she recommends that certain improvements be made to the databases' thesauri and indexing policies.

ONLINE SUBJECT ACCESS: GENERAL

An examination of recent literature about subject access in online catalogs is undertaken by Husain and O'Brien. They categorize and discuss the research on problems of search failure (inadequate query formulation and misuse of Boolean operators) and of information overload (too many hits retrieved). Possible solutions that have been explored include word-stemming, end-user online thesauri, enhancing records with terms from table-of-contents or back-of-book indexes, innovative use of classification systems, and improvement of searcher-system interactions. The authors identify a trend away from solving problems at the indexing (cataloging) or searcher (user-training) stages; they predict that more future research and experiments will emphasize user interfaces and expert systems. Wittenbach presents a similar overview of recent research, drawing the same conclusions, although she remains hopeful about the potential of national cooperative projects for augmenting the content of bibliographic records to improve subject access. Such enrichment of records is also urged by Murphy, who summarizes the studies done on the needs of students and teachers using OPACs at school media centers. The most promising solutions to perceived problems, she believes, are the addition of extra subject headings and curriculum unit descriptors, better online searching instruction for students, and use of innovative system design (especially Hypermedia user interfaces).

Transaction log analysis continues to be a vehicle for learning about how users search for subjects and evaluating the effectiveness of subject headings. Vizin-Goetz and Markey studied transaction logs from three university libraries, using com-

puter analysis and manual analysis techniques. They find that the manual analysis is more successful at determining whether or not an exact match on an LC subject heading is really a "best" match. In this study, 45% of all topical subject searches were exact matches on LC subject headings, but 33% of these retrieved too many hits. The investigators observe that users had to restate their queries, follow advice of scope notes or cross-references, or browse through subdivided headings. Luck, patience, and/or perseverance were often required for a successful subject search.

The gulf between indexer/cataloger procedures and the user's search processes is the subject of a frankly provocative paper delivered by Cochrane. She questions the early models of retrieval that presumed that there was a match or even a connection between a searcher's statement of need and the representation of knowledge in the form of subject headings or descriptors. Controlled vocabulary might be less important nowadays, when many value-added devices are being introduced in catalogs or databases. Even the efforts to develop a searcher's thesaurus, for translating natural language, are not likely to succeed if we do not obtain more reliable data about the searching process. Cochrane concludes by challenging the profession to shift its thinking about thesauri and classification systems—their value to the user might be overrated.

IMPROVING ONLINE SUBJECT ACCESS

Some of the techniques explored for improving subject access in online catalogs, however, continue to focus on subject headings or classification, but often in combination with sophisticated system devices for assisting the online searcher. The main categories for 1992 research were: enhancements to display formats, enriched records, class numbers as search keys, use of keywords or natural language, and various "switching" techniques or clustering methods.

For navigating subject indexes, the final report of the Association for Library Collections & Technical Services (ALCTS)

Subject Analysis Committee's Subcommittee on the Display of Subject Headings in Subject Indexes in Online Public Access Catalogs offers guidelines for various choices to be considered by systems designers and librarians. The subcommittee advocates that a chronological arrangement be effected for time period subdivisions (rather than strictly alphabetical), whether this be accomplished through special programming or by changing the subdivisions to position the numbers first. It also recommends that parenthetically qualified terms be grouped before phrase headings that begin with the same term and that hyphenated words, which can file as compounds or as two words, always have a cross-reference from the unused filing form. For other questions (e.g., use of a structured arrangement as opposed to a "strict alphabetical" approach), the report has clear illustrations and presents the advantages and disadvantages for each option. Kinnucan proposes, as a solution to the information overload problem, that an OPAC interface offer what he calls a "fish-eye view" of the index. Headings of the type TOPIC—TOPIC, TOPIC—PLACE, and TOPIC—FORM would be compressed in the initial retrieval display, giving the user the option of direct manipulation, moving back and forth between the summary index and the more detailed display. The author admits that some problems would need to be overcome; for example, currently there is no easy way to distinguish form subdivisions from topical subdivisions.

The concept of augmenting bibliographic records with more subject-rich terms was furthered in 1992 by publication of a MARBI discussion paper, "Enhancing USMARC Records with Table of Contents." A project at the Australian Defence Force Academy Library is described by Beatty. Over 25% of the Library's 210,000 titles have been enriched by contents or index terms. The cataloger's procedures are summarized, and the author relates a 1987 study that showed that subject retrieval was significantly improved, compared to use of *LCSH* or title keywords alone. Library users find the increased information very helpful for making rele-

vance judgments, especially users at remote locations who cannot browse the stacks.

The uses that classification numbers have in online catalogs are considered by Walker. Direct searches by class numbers can be useful, and use of classification as a linking device, or "pivot," can be quite beneficial, especially in multilingual collections or for works that have no subject headings assigned. Walker also evaluates experiments in which bibliographic records are enriched with keywords from classification schedules, looking particularly at the *DDC* Online Project. In an earlier article by Buxton (1990) the strengths and weaknesses of various systems having the capability of searching by UDC number are analyzed. Buxton suggests that the individual facets of UDC numbers be separately searchable, to allow post-coordinated searches. Svenonius, Liu, and Subrahmanyam report on the automatically generated chain index feature of the Dewey Online Retrieval System (*DORS*). Some problems in the vocabulary and structure of the *DDC* are identified, and the authors share ideas on further research in automation of chain indexing. The *DDC*, with supplemental cues from keyword clusters, formed the basis of an experimental online catalog for the children's collection at the central Los Angeles Public Library, as reported by Rosenberg and Borgman. Children can access 8,200 MARC records, using a mouse to "point and click" as they navigate the subjects in a hierarchical manner. Initially the distribution of the books' Dewey numbers was uneven, resulting in long retrieval lists. This was partly due to variations in classification practices over 100 years—about 87% of the *DDC* numbers were only three numbers long (truncated before the decimal). The authors resolved this problem by using a clustering algorithm based on word co-occurrence (keywords from title, summaries, and subject fields) to extend the subjects more discretely, with a human editor to create topic names (in place of Dewey numbers) for the restructured categories. Although some manual shifting was necessary, Rosenberg and Borgman expect to make improvements in the algo-

rithms and the editing process. The authors believe that such use of extant data in the MARC records has great potential for maximizing online retrieval because most libraries cannot afford to recatalog and reclassify materials.

Keyword searching as an alternative to subject headings gained more attention in 1992. Cherry took actual user searches that resulted in zero hits and converted the search terms into *LCSH* searches, keyword subject searches, keyword title searches, and truncated term searches. Her findings show that the keyword searches (title alone or title combined with subject keywords) were more effective, and she recommends that online systems design prompts for users whose searches fail or execute an automatic conversion to the keyword search. Another study of users' actual subject queries, executed by Cousins, had a different approach but arrived at similar results. Her experiments showed that *PRECIS* strings had higher recall than *LCSH* in retrieving relevant documents from the users' queries, but natural language search terms, especially if truncated and if using enriched bibliographic records, were the most effective. The author points out, however, that use of natural language imposes the burden of vocabulary control on the searcher and is highly dependent on the book's author's language. She believes that controlled vocabulary will be more effective if used in conjunction with an online thesaurus and that it has potential, with switching mechanisms, to aid in multilingual access. Iyer also expresses concern about keyword approaches, which she contends might lead to more entropy ("noise") in retrieval results. If controlled vocabulary strings can be structured in facets, following the Ranganathan categories in proper sequence (Personality Matter Energy Space Time), there might be better retrieval of relevant documents, particularly in a system that drops the final search term when there are no hits.

A view of reference librarians' preferences for keyword searching as opposed to controlled vocabulary is presented by Fidel. The 281 searches by forty-seven professionals were not executed in online

catalogs but in online databases. Nevertheless, it is interesting to note that descriptors (controlled vocabulary) were used as often as textwords (keywords). Searchers often did textword searches in order to probe the index to identify appropriate descriptors. Textword searches were used when the patron wanted very specific retrieval, the term was very well defined, or previous attempts to use descriptors resulted in poor retrieval. Librarians who had to search several databases most often ignored thesauri and relied on the textword approach; this suggests that development of "switching languages" between thesauri would facilitate such searches. Fidel also notes that, if there were no controlled vocabulary available, the searchers she observed would have lost the choice they exercised 50% of the time. A type of switching language to be used to select appropriate vocabulary and a ranked-order list of suggested databases is proposed by Chamis in what she calls a "thesaural relationship model." In her book Chamis evaluates different types of search strategies employed in online databases, including switching online searches, frequency online searches, and productivity online searches. Some strategies were better for recall, others for precision or relevance; but none was clearly superior for every need. De Grolier delivers a comprehensive survey of research and experiments with various switching mechanisms to provide simultaneous access between different retrieval structures, such as multiple classifications or thesauri. He also details various problems that will have to be addressed before a new syndetic universal scheme for the organization of knowledge can be developed.

Jackson offers a different proposal for enhancing access to the geographic component of subjects. Authority records for place names might be enhanced, he says, with the addition of geographic area codes (043 fields), notations from *DDC* area tables, geographic coordinates, and hierarchical relationships (larger regions, smaller places) in cross-reference fields. The resulting "geographic thesauri" could direct users to terms now being indexed and serve as a foundation for expert systems in

the future to guide the user in expanding or narrowing the search focus.

THIRD-GENERATION ONLINE SUBJECT ACCESS

Several experiments are under way, in Sweden, Denmark, the United Kingdom, and at the National Library of Medicine (NLM), in which specific information retrieval techniques are applied to online systems. These projects attempt to move subject access beyond the limitations of subject headings and keyword, features that Hildreth (1984, 33) has associated with first-generation and second-generation online catalogs, respectively. The two most common problems of the conventional online catalogs, search failure and information overload, have led Young (1991, 266) to observe that subject access has reached a point of crisis:

Recent theory has not been well integrated into the existing systems. Indexing and classification theories have experienced a dramatic revolution in the last quarter century. These advances were not readily incorporated into the structure of standard library tools. Their widespread use in other bibliographic systems now creates a highly visible and unsatisfactory comparison, which contributes to the sense of crisis.

Indeed, scientists in the information technology area have long been concerned with subject access. Their journals and conference proceedings abound with papers about cognitive behavior, knowledge bases, linguistic/semantic and syntactic analysis, relational analysis, and the development and evaluation of user-friendly techniques such as navigational links, proximity searching or nearest-neighbor retrieval, query term weighting, disambiguation, stemming and truncation, and relevance feedback. The dawn is breaking on a new generation of online catalogs, employing some of these methods in order to increase user satisfaction by achieving better recall, precision and relevance in subject searching. Automatic query expansion (AQE) was tested by Hancock-Beaulieu and Walker at City University, London, using the Okapi system (Online Keyword Access to Public In-

formation). After a search the user is asked to signify whether any of the books retrieved appear relevant and then is given the option of typing "more" to look for books similar to the ones already chosen. The system then extracts terms from certain fields (title, subject heading, corporate names) of the documents chosen as relevant, places these terms in a pool of expansion terms, weights them in descending order, and conducts an automatic (invisible) new search. This experimental online catalog was evaluated via transaction logs, search replays, questionnaires, and interviews. Use of the "more" option led to a significantly higher number of relevant items being selected overall. Records selected after the AQE process did not contain any of the user's original query terms 56% of the time. The "more" option was chosen only 31% of the time, but this might be because the initial searches often yielded satisfactory results. (The Okapi system already had "best match" search, stemming, and automatic cross-referencing.)

In another experimental online catalog, called CHESHIRE, Larson (A) tests the use of natural language for retrieving all and only relevant documents, ranking the resulting entries in descending order according to their probability of relevance for a given query. Title words and subject headings from documents are clustered and indexed. A "coordination level matching" program (i.e., number of terms in common between the document and the query) was the most effective. Larson also tested query expansion, based on users' selection of retrieved clusters as relevant, with a second-stage search that incorporated classification numbers as extra query terms. This improved precision even more. Larson points out that the major advantage of these techniques is that the patron need not be knowledgeable about *LCSH* or the use of Boolean logic.

Responding to the problems of information overload and of search failure, researchers at the University of California, Berkeley, are trying to empower the user by customizing the online search in order to either reduce or expand the search results. Buckland et al. report on their front-

end prototype, called OASIS, used with the MELVYL online union catalog. A "filter" command tells the system to sort and display search results by location, by language, and by date. The "fewer" command, which is a repeatable command, will automatically eliminate from the search results initially the works not in this library, then the foreign-language works, then the older imprints, then the nonprint materials, and so forth, depending on the number of times "fewer" is entered.

Users do not have to accept these default settings but are allowed the option of choosing their own ranked order for types of records to eliminate from the display. When there are too few hits from the user's search query, OASIS offers another feature called "summarize subjects." This command allows the user to redirect his search after seeing a display, in ranked order, of all the subject headings assigned to the records he did retrieve. Buckland et al. believe that such enhancements are essential for the next generation of online catalogs, especially for large databases and for the majority of patrons who are seeking a few, but not all, relevant materials on a topic.

SPECIAL MATERIALS

Provision of subject access to fiction titles is addressed by Hayes. She presents a comprehensive review of historical attitudes toward fiction, recent writings calling for enhanced access, previous attempts to classify imaginary literature, the inconvenience of using printed indexes or librarians' recommendations, and recent trends in interdisciplinary studies or literary scholarship, which make subject access to fiction important in academic as well as public libraries. The major obstacles to assigning subject headings usually refer to difficulty (because of topic diversity) and practicality (too time consuming). The author took a random sample of fifty novels and assigned headings for subject, genre, setting, and fictitious characters, in accordance with the 1990 *Guidelines on Subject Access to Individual Works of Fiction, Drama, Etc.* She compares her time-study results to those of an experiment pre-

viously conducted in LC's Subject Cataloging Division. Hayes was able to catalog the novels with the extra subject access points in an average of 16.3 minutes/book, whereas the two LC catalogers had averaged 14.3 minutes and 47 minutes, respectively. There is no explicit comment on whether or not the process was difficult, but Hayes does argue that the challenge would be worthwhile because such a service would respond to a clear user need. That user need is demonstrated by Guard, who relates experiences at a public library reference desk, where patrons often ask for fiction set during certain time periods or in a certain place, dealing with specific subjects, or similar to the kind of book [Author X] writes. In addition to the type of access points detailed in the aforementioned *Guidelines*, Guard also suggests that "analogy" software be developed to provide links between authors whose subjects and style are very close (e.g., a novel "in the tradition of [author X]"). The author does not say on whose authority such comparisons would be made, or how such a practice could be standardized. A news item headlined "OCLC/LC Fiction Headings Project: Too Little, Too Late?" describes this project and names the eight participating libraries. There is some concern about the fact that LC has not committed permanently to the project, that the OCLC Online Union Catalog is not searchable by subject, that poetry and drama are not included in the project, and that the allocation of staff and time resources will be a serious impediment to extending these procedures to other libraries.

A few authors investigate subject access for audiovisual materials. Miller compares terms from the 1988 *Moving Image Materials: Genre Terms (MIM)* and the LCSH system. Some of the form or genre headings are identical, others are overlapping or similar, and others are in conflict. Problems and possible solutions for use of both systems simultaneously are discussed. Miller also makes a plea for LC to discontinue using the same subject headings to represent either form or topic. Intner and Studwell have assembled a list of subject headings and cross-references pertaining

to motion pictures and videorecordings, extracted from *LCSH* 13th ed. (1990), with a few headings from *MIM*. Principles and policies regarding LC subject headings are given in the introduction, and the book includes a list of over 200 canceled headings, along with the headings that replaced them. Palmer evaluates OCLC's EPIC service as a tool for identifying videos on certain subjects, and he finds it to be far superior to any of the printed or CD-ROM guides available. This is partly due to EPIC's keyword access, which extends into contents and summary notes, and also because subject headings in the printed catalogs tend to be overly broad. The distinct characteristics of musical sound recordings are not being adequately addressed in subject analysis and retrieval, according to Whitlow. The *LCSH* system provides access by medium of performance and form of composition, but Whitlow finds it deficient in representing the topical and cultural aspects of the recordings. He also criticizes *LCSH* for its lack of currency and disregard of popular terminology.

SPECIAL TOPICS

That sort of criticism of *LCSH* is not new, and complaints about the representation of certain classes of persons or ethnic/national/linguistic groups continued to surface in 1992. Olson looked at 100 new titles on women's studies and finds that the *LCSH* system could not adequately reflect their subjects 42% of the time. She suggests that a free-floating subdivision, either —FEMINIST ASPECTS, or —FEMINIST APPROACHES, be established, and that LC continue to revise headings to eliminate subtle forms of bias. Examining the treatment of Australian aborigines in both *LCSH* and in the *List of Australian Subject Headings*, Moorcroft considers many of the wording choices to be outdated and offensive. She feels that the ethnic groups themselves ought to be consulted to suggest words that do not imply peculiarity or inferiority. Kim is concerned that LC headings and classification practices seem to imply that there is no Korean national literature prior to the late nineteenth century, when Korean literary

authors stopped favoring the Chinese language. She would resolve this by using KOREAN LITERATURE (CHINESE) for works from the classical period, comparing this construction to SWISS LITERATURE (FRENCH) and other national literatures in which more than one language tradition exists. Various other problems with terminology for certain ethnic groups and their languages, particularly Spanish-speaking and French-speaking peoples, are addressed by Russell. In her comprehensive thesaurus for African studies, Othere does not study or criticize the nearly 4,000 *LCSH* terms listed, on topics relating to Africa south of the Sahara. But she does enrich the entries by adding hundreds of "see" references, chiefly to link people with places or families of languages with specific languages. Othere has also added suggested LC classification numbers, to assist the browsing function, because the thesaurus is meant primarily as a tool for library patrons.

In the area of art and music, specialized thesauri or developments in classification were the focus of papers by Hemmasi, Sweeney, Redfern, Whitlow, and Whitehead. Hemmasi describes a project of the Music Library Association, supported by a Council on Library Resources (CLR) grant, to use thesaurus construction software for converting *LCSH* music headings into a machine-readable thesaurus. The resulting file consists of about 10,000 records. A thesaurus display and a hierarchical display are available, each with easy ability to redirect searches to related or narrower term records and to retrace back to the original search term. Hemmasi's article is well illustrated. She indicates that the system also provides a means for analyzing *LCSH* structure, revealing some problems with hierarchies. The development of the *DDC 20* revision of the 780s (music) schedule is traced by Sweeney (A). For the first time in the Dewey classification history, a revision proposed by practitioners was published and widely circulated to other *DDC* users for comments, and those comments had a direct impact on the final version. The new schedule allows for distinction between music scores and music literature, and has characteristics resem-

bling a facet classification. Redfern praises the facet features of the new 780 scheme, but he laments the omission (except as an option) of the composer as a facet, criticizes the excessive length of Dewey numbers, and states a concern about the practicality of reclassifying existing collections. Whitlow also expresses admiration for the nearly unlimited faceting available for *DDC 20* music numbers; he suggests that online subject searching by these class numbers could enhance subject access significantly. Whitehead delivers a paper on the *Art and Architecture Thesaurus (AAT)*. Its users include libraries, archives, museums, indexing services, historical societies, and visual collections. The AAT uses single-term descriptors from seven categories (facets): associated concepts, physical attributes, styles and periods, agents, activities, materials, and objects. The descriptors can be precoordinated or postcoordinated, and searches in the strict hierarchical tree-structures can be expanded or compressed. Whitehead makes some brief comparisons to *LCSH*, and she provides tips to others who are considering designing a specialized thesaurus. Another author interested in art subjects, Stam, asserts that traditional access points (name of artist, type of art object, and period style) do not satisfy the art historian's needs. She applies a communication model to highlight aspects of art works that interest the scholar—the artist's life, creative process, physical changes to works, provenance, society's reception of the work, criticism, individual interpretations, influences, sources, and methodology of analysis. She urges the development of new types of knowledge representation based on this model.

Blake Wilson evaluates the botany schedule of the UDC. He states that it is the most detailed of all the general bibliographic classification schemes and is also highly compatible with the most widely used taxonomic classification. However, the UDC hierarchy does not extend below the rank of subfamily, and hence about 650 taxa at the "tribe" level are omitted. The author also makes suggestions for resolving other inadequacies, such as inconsistencies in terminology or nomenclature,

and lapses in notational expressiveness. A detailed analysis of the new *DDC* computer science schedule is given by Beall (1991B), and Samieske assesses the effectiveness of *LCSH* terms relating to computer software.

Professionals at medical and health libraries continue to add to the literature on subject access. Sinn sets forth a history of the *Medical Subject Headings (MeSH)* and the NLM Classification Scheme, with comparisons to *LCSH* and the LCC. Although the *MeSH* system has the advantage of being highly adaptive to postcoordinated searches, the author speculates that developing a single standard for medical classification is more likely than a single subject heading list. She also offers brief descriptions of experiments for linking or mapping *MeSH* and *LCSH* terms for simultaneous use in a single system. A local project involving such vocabulary mapping is detailed by Honeyman. For health-related U.S. government documents at the University of Massachusetts Medical Center Library, subject terms are derived from *MeSH*, *LCSH*, the *Monthly Catalog*, local headings, and common acronyms or initialisms, and these are integrated and mapped to make the documents more accessible. Bronson provides an overview of the scope, use, and special features of the online *MeSH* vocabulary file and the three types of records it contains—descriptor, qualifier, and chemical term. An expert system called MedIndEx is described by Humphrey. This system was designed to assist in the intellectual tasks of using the *MeSH* thesaurus to index the *MEDLINE* database. Bierbaum, Brooks, and Brooks examine the *MeSH* terms assigned to over 20,000 documents indexed in *AIDSLINE* between 1983 and 1989. Except for the heading "Acquired Immunodeficiency Syndrome," practically all the terms that were frequently used in the early 1980s had been supplanted in 1989 by new terms or were no longer in the high-frequency groups. This is largely due to the explosive growth and tremendous development in AIDS research. The authors conclude that their findings have implications for any new topics where a retrospective literature review is required. Subject access tends to

deteriorate over time because characteristics of a rapidly expanding knowledge base might introduce an unexpected degree of mutability in the use of subject headings.

SUMMARY AND CONCLUSIONS

The year 1992 marked the centenary of S. R. Ranganathan's birth, providing the occasion for worthwhile reexaminations of classification theory. Evident was a surge of interest in facet analysis and synthesis, facet classification systems, and faceted thesauri. Only a few years ago there was an increased interest in hierarchical classifications and thesauri. (Hierarchies might not be suitable for organizing all of knowledge; some knowledge relationships are better characterized by network or labyrinth structures, rather than hierarchies.) The focus on Ranganathan's influence also has resulted in some recognition that library catalogers, indexers, and information scientists are often operating under very similar theoretical principles.

The movement to codify some of these principles into a Subject Heading Code is virtually dead. This could be due partly to the belief that "subject identification is a messy and often indeterminate business. After everything else in bibliographic control has been programmed into a computer, this area will remain the domain of human judgment" (Hagler 1991, 178). Indeed, 1992 reports of experiments regarding machine-executed classification and indexing have indicated that human intervention is necessary for achieving acceptable results. However, computer-assisted techniques hold more immediate promise, for simplifying, or reducing the labor intensity of, traditional subject cataloging practices. One such proposal involves the enhancement of online authority records, in order to streamline the cataloger's process when verifying subject subdivisions and to make machine validation of subdivided headings more feasible. Demonstrations offered in 1992 on the *USMARC Format for Classification Data* suggest that its implementation might change cataloging procedures as much as or even more than did the conversion and widespread dissemination of subject head-

ing authority records in MARC format. And, as happened with *LCSH* following the debut of its machine-readable version, the LCC will undoubtedly come under greater scrutiny once all of the LCC records are online. This will open the door to more classification research and to eventual enhancements to subject retrieval for the catalog user.

Some progress may be seen in the 1992 research and experiments on improving subject access online. Projects such as subject access to fiction and enrichment of records by table-of-contents terms have been supported by changes to the MARC format and have tested well. But the library community appears cautious about adopting procedures that might be complicated or labor intensive. Less research is being done on end-user thesauri, although the "switching" or "mapping" techniques for linking terms from multiple systems—and natural language processing generally—continue to be investigated. Surprisingly, practitioners and researchers persist in seeking corroboration for the fact that controlled vocabularies have value, despite the evidence from previous research that has consistently found that keyword/textword approaches alone can also lead to search failure or information overload.

In regard to striving for the perfect coordination between the user and the system, it might be too extreme to say that efforts to train searchers and improve *LCSH* (or other systems) are doomed to fail. Nevertheless, current research seems to be shifting away from such solutions, emphasizing instead improvements to user-catalog interaction. Experiments in third-generation online catalogs are using devices such as clustering of records with common attributes (subject headings, textwords, class numbers), best-match and ranked-order retrieval, and relevance feedback from the user for automatic search refinement. If systems designers are capable of solving the crisis in subject access, does this marginalize or diminish the role of subject catalogers? Probably so, if one measures that role by the level of control exercised over the catalog. Nevertheless, catalogers and indexers will continue the important work of providing

intellectually assigned terms (subject headings or descriptors) and classification numbers, without which the clustering of subject-rich attributes for better search retrieval would not be as effective.

In closing, let us refer to one of the authors whose work was described in this survey. D. J. Foskett says that the father of modern library science, Ranganathan, "always insisted that the history of library classification is a history of breaking rigidity" (Foskett 1991, 50). If we are to achieve our mission (every reader his book, every book its reader, save the time of the reader!), then the rigidity of controlled vocabularies and the rigidity of sophisticated Boolean strategies must be broken. This review of the subject access literature for 1992 suggests that such efforts to empower the user, to allow for successful "self-service" subject searching, will be a primary focus for improvements in the coming decade.

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The Year's Work in Collection Development, 1992

Stephen Lehmann and James H. Spohrer

Collection building returns to the forefront in many of 1992's notable articles on collection development. Other key topics include selection policies, cooperative activities, and collection evaluation, as well as concerns about organization and staffing. Several important contributions on budget and allocations are noted, as is a continued emphasis on electronic formats.

One positive recurring feature in many of 1992's articles on collection development is the affirmation of the centrality and immediacy of collections to libraries' missions. After a period of promulgating "access, not ownership," administrators and librarians alike at last seem to realize that implicit in this notion is the requirement that some library somewhere must actually own and catalog a given item before remote or secondary access is possible. Monroe set the tone for this welcome assertiveness by casting his own "Year's Work in Collection Development" as essentially a battle between these two competing views for libraries' souls and budgets. It is refreshing to see Mosher, in his foreword to Branin's collection of conference proceedings, take a resolutely positive view of developments in collection management over the past fifteen years and to see in Branin's own historical introduction a further validation of the concepts that the Collection Development and Management Institutes have embodied. Lynch argues from the perspective of the "director who

is very interested in building on-site collections for the use of students and scholars now and in the future" and is not timid in asserting both the "primacy of the collections" and the need for "thinking comprehensively" about their development. Hayes speaks to the need for continued collecting of printed publications, in addition to reciting the usual litany of electronic formats.

Some of the same collection-affirming themes recur in the "Issues & Trends Document," introduced in a separate posting on the collection development listserv COLLDV-L. (Electronic copies of the document are available upon request to the List. To subscribe to COLLDV-L send the command SUBSCRIBE COLLDV-L YOUR FIRST NAME YOUR LAST NAME to listserv@uscvm or listserv@vm.usc.edu.) It calls for a redefinition of the traditional role of collection development specialists to include responsibility for mapping the shift from printed to electronic media, yet it also casts cooperative collecting in a more realistic light by exposing the inherent contradiction of a national strategy

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carried out by agents whose collecting needs and interests remain stubbornly local. In twelve sections it covers topics such as budgets, new technologies, recruitment and education, censorship, new organizational models, preservation, copyright, and special collections. "Issues & Trends" is similarly realistic in predicting that, in the absence of national or international coordination, "collections will become increasingly homogeneous[,] and many valuable resources that give a collection character . . . will cease to be acquired or supported as everyone moves toward a 'core' collecting strategy."

Osburn and Atkinson's *Collection Development: A New Treatise* brings together a number of important voices that focus on most of the principal collecting issues of the day. Broadus sketches the history of collection development from its beginnings, but concentrates principally on familiar chapters from the history of American librarianship. Atkinson (1991) updates the arguments to consider the impact of the technical revolution in information processing and telecommunications, arguing for a highly specific calculus of integrated functional considerations ("combination, locality, temporality, and focus") as the core criteria for modern collecting strategies. Farrell on "Policy and Planning" retreats from the high ground of local collecting strength to assert that in these straitened times "collections no longer stand on their own; they can no longer be assumed as an unqualified given." Finally, Ryan reasserts the universality of "Special Collections" in a forward-looking piece that examines key aspects of their acquisition and handling.

Vickery reiterates the importance of collection building in his own review of the 1991 literature: "local collections still need to be built and maintained to meet the needs of readers." In this excellent summary he touches on many aspects of collection development that have fallen out of favor in the rush to deliver documents rather than acquire them: gifts and exchanges, education for the booktrade, and collection evaluation.

The importance of foreign scholarship to American librarianship is underscored

by the the proceedings of the second Western European Specialists International Conference held in Florence in 1988. Edited by Assunta Pisani and published as *Euro-Librarianship*, it includes a wide variety of papers on libraries, research centers, publishing, and access to information in Western Europe and focuses attention on the need for transatlantic cooperation in the building and nurturing of research collections on Western European subjects.

SELECTION/COLLECTING POLICIES

Hazen's (1991) thorough and convincing review of theoretical models for selection offers surprising insights into the practical consequences of collection building in U.S. research libraries. He accurately depicts the interdependencies between libraries and the institutions they serve and contrasts this mutual dependence with the discipline-oriented decision-making process that informs most individual collection management decisions and that might be at odds with hierarchical and formalistic institutional values. He also demonstrates a disarming resignation in the face of the chaos that characterizes the continuing debate over selection theory.

Reed-Scott (1991), on the other hand, sounds a resolute note in favor of systematic collection building through the use of expert systems, though her criteria for the success of such systems seem heavily weighted toward administrative rather than collecting ends.

Bryant and Van Deventer's views on the importance and practice of retrospective collecting constitute a helpful guide to this recently neglected subject. Bucknall reviews gathering plans and provides a useful synopsis of their types and functions. Foreign collecting, particularly current and future trends in U.S. research libraries, is ably reviewed by Pritchard, who proposes a six-step plan to address the insufficiencies of present practices. Mosher offers practical insights and guidance to subject specialists engaged in collection review for preservation, storage, and deselection.

For a number of years the issue of acquiring translations into languages other

than English has been a matter of concern for members of consortia such as the Research Libraries Group (RLG), the Association of Research Libraries (ARL), and the Center for Research Libraries (CRL). Leibold and Brownson provide a new twist on the theme with a lucid article on translation studies as a valid collecting discipline in U.S. research libraries. They include a helpful appendix of selection guidelines for such collections. Hodge compares the initial and ultimate costs of acquiring non-bound monographs in academic libraries and concludes that there are sound fiscal and curatorial arguments for preferring paperbacks in many instances, an idea that Silverman and Speiser also endorse as a part of their "preventive conservation strategy." Atkinson (B) provides a fascinating overview of the issues and practical considerations surrounding the collecting of Australian belles-lettres materials and a call to action for collections work in that hitherto neglected field among North American research libraries.

Two studies deal with book reviews as they influence the selection process. Serebnick finds a high correlation between the frequency of published reviews about small press titles and their acquisition by OCLC member libraries. She further infers that vendors depend upon evaluative reviews to select titles for their approval plan customers. Leavy evaluates *Choice's* "outstanding academic books" feature as a selection mechanism in terms of its correlation to scholarly reviews in other sources and concludes that the feature is at best an insufficient tool for identifying core universes of appropriate materials for very discriminating college libraries. The accuracy of this view and Leavy's evaluative techniques are questioned in a letter from the *Choice* editorial board in a subsequent issue of the same journal.

Three articles and a collection of policy statements remind us of political and cultural issues that inform selection. Dittmore's case study of social sciences collecting at Tulane University surveys the transfer of responsibility for collection building from faculty to librarians and examines its effect on the nature and direction of collecting. Manoff discusses the

role of collection development in the debate over cultural diversity, reiterating the classical arguments for broadminded and inclusive collecting policies and drawing attention to the power that librarians wield so invisibly and yet so decisively when they build collections. Dodson reviews the history of Afro-American collecting in the United States and documents the steps being taken to broaden the availability of bibliographic information from the chief collections of resources. *Women's Studies Collection Development Policies*, a project of the Women's Studies Section of ACRL, consists of sixteen highly individualized institutional collection policies. Varying in length, they represent a broad spectrum of specialized collecting interests and collecting levels.

COOPERATION

Although the 1991 "Year's Work" did not include a section on cooperation, this subject received considerable attention in 1992. Branin, in his fine survey (1991), asserts that "only modest successes can be identified" in the short history of cooperative collection development. The political will to cooperate is weak in the face of the powerful demand for local autonomy, and, according to Branin, "the decentralized, free market, and ad hoc approach to information provision that has characterized the information environment in this country will likely continue." On the national level, the RLG model constitutes a workable structure because it accepts the primacy of current local practices and rationalizes them only to the extent that they are identified, formalized, and publicized. Hacken found that—although selectors were, according to the 1985 RLG Conoco Study, willing to rely on other libraries for a significant amount of material—" [e]xperience since the Conoco Study has shown that the consortium serves its members best when each member acquires materials primarily according to local needs." Ferguson (A) is no less aware of the limitations of Conoco-based cooperative efforts, but he offers several proposals for future action. Among them is the concept of the "cooperative

collecting responsibility (CCR)" as a structure for cooperation among a small number of libraries in fields in which they are strong and have a high level of interest, in contrast to the familiar "primary collection responsibility (PCR)," which tends to focus on marginal areas. Ferguson also argues that cooperative efforts will only succeed when libraries bring faculty and administration into the process. Keller (B), too, makes a number of useful suggestions for more effective cooperation. Among them: adjusting measures of cost effectiveness, "at least at the start, to make possible new cooperation"; emphasizing regional activities (leaving national schemes to the largest libraries); developing one national bibliographic database; and establishing a representative body that includes libraries of all sizes and types "to keep the process of cooperation moving." In a paper given at CRL, Keller (A) goes on to chart the decline of foreign acquisitions in U.S. libraries. Focusing especially on the role of CRL, he urges the implementation of a multifaceted national collections policy that borrows from aspects of both a distributed and a centralized model. Boylan, speaking from his experience as director of collection resources at CRL, describes its attempts to integrate its programs into local efforts, although he reports only "mixed success."

Most studies of cooperative efforts describe specific programs, ranging from local to international. Erickson shows how three libraries in North Dakota have developed a title-by-title selection system to minimize duplication, using *Choice* as a shared base. The conditions that favor such close cooperation: close physical proximity (one to four miles), minimal turnaround time for interlibrary loan, clear complementarity among the collections, and a willingness on the part of each participating library to relinquish its autonomy. Medina describes the history and structure of the Network of Alabama Academic Libraries, which was created in 1984 and by 1990-91 was granting \$835,014 to member libraries for acquisitions within a cooperative framework. Brown surveys a range of cooperative projects in Illinois, while Kilton focuses on that state's "pool

fund," which disburses \$120,000 annually to academic libraries for collections acquired in a cooperative program. Kilton also provides an overview of related activities in other states. Other accounts of statewide cooperative collection development programs are given by Moore (a forthright account of disappointed expectations in Washington), Soete and Wittenborg (California), and Stephens (Alaska). Rousseau et al. describe cooperative efforts among university libraries in Québec Province working within the framework of the Conspectus. State and regional consortia, according to an ARL SPEC Kit on "the emerging virtual research library," also form the basis for most cooperative development or purchase of electronic files and hardware, arrangements in which 61% of the responding libraries participate.

The first steps toward cooperative collection development on a national scale in Australia—a commitment by major libraries to the concept of a Distributed National Collection (DNC) and to participation in an Australian Conspectus—were recommended at the Australian Libraries Summit in 1988. Waters addresses some concerns, especially regarding the Conspectus, but looks to the time when the DNC might be "managed cooperatively as though it were a single large collection." The Scandia Plan was an ambitious four-country Scandinavian cooperative acquisitions program that began in 1956 and was finally dissolved in 1980. Among the reasons for its failure, according to Hanesdóttir, were its primary commitment to collecting peripheral material (the same criticism has been made of RLG's "primary collection responsibility" concept) and the lack of centralized administrative support. The exchange of materials is one of the earliest forms of systematized cooperative behavior among libraries, and Otiike provides a salutary reminder of its continuing importance to developing countries.

ASSESSMENT AND EVALUATION

However empirical their approach, most articles on assessment methodologies confirm Ross Atkinson's dictum (1992, 354):

"Bibliography has always been a mutable, obscure, ambiguous, messy pursuit, and those of us who practice it must accept that the instruments we create to help us manage our work will necessarily reflect those qualities." One is reminded also of Paul Mosher's corollary postulation (1984, 214) that a multiplicity of evaluative instruments will result in more useful results than any single methodology.

OVERVIEWS

Henige's (1991) taxonomy of values (identified as utilitarian, comparative, cumulative, and access) organizes the criteria that determine the effectiveness of collections. The details of his model are sometimes helpful, sometimes arguable, but one welcomes his attempt to provide a conceptual framework for evaluating collections. Henige dismisses systematic and macro-level collection assessment as "a practical impossibility," which he contrasts to evaluation that is "a daily, reflexive activity by selectors and users engaged in an ongoing dialectic." Instead of seeing these categories as mutually exclusive, one might argue instead that the first is a natural and necessary extension of the second. MacEwan (A) reviews the range of specific assessment techniques, while Sanders focuses on the assessment capabilities of existing automated tools such as OCLC/AMIGOS and online catalogs and on the characteristics of an "ideal system," among which she lists the ability to track and project costs, profile collections, and record in-house use.

COLLECTION-BASED STUDIES

Applying existing methods of collection evaluation to the field of Scandinavian literature, Olson finds them unreliable and/or uninformative. He proposes instead computer analysis comparing holdings, sampling local holdings against holdings represented in the national bibliographic utilities, and "survey research" (checking lists of authors against local holdings). Olson stresses the importance of focused assessment of collection subsets for meaningful results. Schaffner, Burke, and Reed-Scott provide a careful

and persuasive case study of the power of automated collection analysis using the AMIGOS service to compare holdings in the libraries of the Boston Library Consortium.

CONSPECTUS-BASED STUDIES

Renewing his attack on the *Conspectus* in a *Journal of Academic Librarianship* "symposium," Henige (1992) criticizes the McGrath-Nuzzo study as another instance of *Conspectus*-inspired methodological sloppiness. In response, Ferguson (B) and Atkinson (A) counter the substantive arguments of Henige's original critique. Defending the qualitative, subjective nature of the *Conspectus*, they identify the critical problem as political, not methodological: the failure of libraries to create a workable basis for genuine cooperative collection development. In other reactions to Henige, Janes, Hernon, and Schmidt urge greater attention to rigor, theory, and the rationale and purpose of research and data collection, while Davis and Saunders find a basis for the subjectivity of instruments such as the *Conspectus* in the theories of Bayesian statistics. Wood and Strauch have compiled an entire volume devoted to the *Conspectus*. Although some of the pieces cover familiar ground, others make useful contributions to what has become a sizable literature. Coleman brings an insider's expertise to his discussion of the development of the *Conspectus* and *Conspectus*-related methodologies. The flexibility of the *Conspectus* is demonstrated by Bushing, who adapts this instrument to smaller libraries; by Underwood in his discussion of the supplemental guidelines for music; and, finally, by specific assessment methodologies proposed by Siverson on the one hand (based on a close and differentiated bibliographic analysis) and by Palestrant and Carter (using cataloging statistics and Lotus 1-2-3) on the other. Reed-Scott (1992), in a paper presented to an audience of American and European librarians in Florence, examines the *Conspectus* as an analytic tool for American collections in Western European studies and for U.S.-European cooperative efforts.

CITATION STUDIES

In a creative application of the principles of citation analysis, Soehner, Wray, and Richards devised a methodology that matches references to a "landmark" citation (traced in citation indexes) against a library's holdings. In emerging disciplines where few retrospective bibliographic sources exist, this method might substitute for list checking; its usefulness, however, is limited to journal-based disciplines. St. Clair and Magrill analyzed citations in 1,775 unpublished undergraduate papers. Finding similar citation patterns to those that exist in published scholarly research, they urge that collection managers give greater consideration to undergraduate use. Hurd's study reveals a high degree of interdisciplinarity in the work of campus chemistry faculty and discusses the service and collections implications in a decentralized environment.

USER STUDIES

Brancolini provides an overview of user-centered collection evaluation techniques and reports on three surveys conducted at Indiana University. Bustion, Eltinge, and Harer measured use of a periodicals collection with a direct observation procedure that they ultimately found problematic and labor intensive. Also seeking alternatives to the circulation-based measures of the infamous Pitt Report and its progeny, Selth, Koller, and Briscoe developed a number of strategies for quantifying in-house use (and point out that actual use is higher yet). Britten and Webster, by contrast, assume a high degree of correlation between circulation and use. They examine local MARC records of high-circulation titles and derive some characteristics of these titles, such as higher than expected circulation of older works in mathematics and physics. Especially popular subject areas were then searched in the OPACs of peer institutions for comparison and to identify potential desiderata.

Nisonger's annotated bibliography of the recent literature on collection evalua-

tion will greatly facilitate future work on this subject.

ORGANIZATION AND STAFFING

New technologies, according to Dugall, pose serious challenges to our organizational structures: libraries managed by principles devised a hundred years ago will not be able to adapt to the radical changes facing them. In his excellent historical and typological overview of staffing patterns for collection development, Pitschmann argues that collection development staff will need to work more closely with public services and systems departments than has previously been necessary. Libraries will have to develop ways for staff to communicate, plan, and make decisions that cut across existing organizational lines, lest "a dual-track collection development program" (print and electronic) emerge. McCombs sees a "convergent evolution" in which the work of bibliographers will include aspects of acquisitions and cataloging, while Johnson (B) encourages collection managers to gain a better understanding of technological issues and to broaden the scope of their involvement across campus (as access to information becomes less centralized) and within the library.

Local studies of the reorganization of collection development and acquisitions at the University of Iowa, Emory University, and the University of Louisville are explored by Wachel and Shreeves, Jasper and Treadwell, and Niles (B), respectively. The impact of electronic technologies on internal procedures in collection development is described by Cline, whose library implemented an online file to enable faculty to review newly received approval books and new title announcements, and by Sasse and Smith, who speculate about the responsibilities of selectors and collection managers in an automated environment.

An ARL SPEC Kit reports the results of a 1990 survey on performance appraisal of collection development librarians: in 55% of the responding libraries, all selectors have other assignments in addition to collection development (reference, cata-

logging, etc.), while in the remaining 45% some selectors are full-time bibliographers (most commonly one to five). The "kit" includes the usual mix of in-house documents (relating to performance criteria, performance review models, job descriptions, etc.). The "Selected Readings" lists, oddly, only one citation.

BUDGET AND ALLOCATIONS

The question of the adequacy of collection budgets has a disturbingly open-ended quality; surely any increase in available resources would trigger a not unrealistic escalation of libraries' needs and desires for materials. On the other hand, from a perspective of many years of eroding purchasing power and dwindling staff for collection building, even a steady-state budget and an end to further personnel reductions seem like positive achievements. Carrigan speaks convincingly for the centrality of collection building (quoting Metcalf): "the most important single task that any librarian can perform is to build up the collections in his library . . ." Basing his thesis on proportional-use statistics, Carrigan argues for a reader-oriented methodology of allocating materials budgets and cites Metz's rebuttal to the arguments in favor of building collections for future hypothetical use.

Wiemers (1991) writes of the "good budget" in ways that are more related to the process used to develop it than to the concrete results it achieves in meeting collecting needs; he describes the many ways in which book budgets are allocated in U.S. research libraries and suggests that there is an inherent validity in the variety of methods by which resource allocations are made. He draws an interesting parallel between the competence required of a selector who selects or rejects individual titles and that of the collection development officer whose decisions about resource allocation must reflect an accurate understanding of institutional needs and the comparative worthiness of competing claims. In a more quantitative vein, an interesting article by C. A. Lowry revisits the notion of book and serial allocation by

formula and presents an impressive profile of presumed collecting needs derived from statistical analysis of academic programs, faculty staffing patterns, and enrollment.

One of the most widely discussed articles of 1992 that dealt with acquisition budgets comes not from a librarian but from a bookseller: Dorn reviews publishing trends in Europe and contrasts them pessimistically with U.S. libraries' fiscal capacity to continue collection building at traditional rates. He sees serious consequences for widely accepted means of collecting European materials such as approval plans because they might eventually reach a point of diminishing or nonexistent returns for vendors. More important, the national capacity to build research collections of great breadth and depth is progressively compromised as budgets shrink, and Dorn documents this alarming development particularly as it pertains to "grey literature" (items published and distributed outside the normal commercial channels).

Lynden proposes a number of strategies to stretch the collections budget. He sketches a series of useful criteria in serials cancellation decisions and collecting scope reductions, and takes a workmanlike approach to the question of obtaining value from the collections investment, emphasizing immediate use as the predominant criterion in collection building. He also identifies a number of very practical fiscal strategies to achieve cumulative savings, such as creating foreign deposit accounts in vendor countries in order to pay invoices in the local currency.

In an attempt to provide some empirical evidence of the trends in monograph and serial expenditures in ARL and ACRL libraries, Budd examines the relevant statistical information provided by those organizations from 1985 to 1989. Although he cannot decisively demonstrate a national trend away from growth in serials budgets at the expense of monographs, his data suggest that the price escalation for serials appears to have slowed and that the ratio of funding for monographs and serials has stabilized in the most recent period. Griebel's excellent annual survey of collec-

tion budgets in German academic libraries, by contrast, documents an alarming erosion of support for monographic acquisitions.

Finally, Ekoja reminds us that our concept of austerity might have little in common with that being experienced by university libraries in developing countries. Beginning in 1982–83, journal subscriptions at the Usmanu Danfodiyo University Library in Sokoto, Nigeria, declined from over 1,300 titles to fewer than fifty in 1985–86, while the acquisition of overseas monographic purchases decreased from 4,299 titles to just two titles over the same period.

ELECTRONIC PRESENT, ELECTRONIC FUTURE

Few issues in libraries generate as many divergent opinions as the long-term influence of electronic technologies on collections. Publishing on this theme varies from discussions of familiar topics (e.g., selection tools) applied to the new context to very confident long-range prognostications that appear either utopian or dystopian depending on one's point of view. Metz's discussion on collecting software and nonbibliographic databases stands at one end of this spectrum, and the articles by Barker, Fisher, Cherman, Kurzweil (A, B, C), Robinson, and Saffo, who assume a largely or even entirely paperless future and bravely flesh out the details, stand at the other. The complex issues arising from the relationship of new technologies to collections are presented in the Mellon Study, *University Libraries and Scholarly Communication*. This report includes chapters on electronic publishing, resource sharing, and related economic and legal issues, with further implications offered by Ann Okerson's thoughtful "Synopsis."

Without minimizing the complications of the high-tech option, Bailey urges librarians to exploit the opportunity offered by electronic journals to control serials costs. Racine, too, points to the "promise of widespread availability of electronic texts," though in the next breath he acknowledges its elusiveness. Neverthe-

less he identifies some practical matters regarding electronic journals that collection development librarians must take into account as they move toward something that he rather ominously calls the "bionic library." He points out shortcomings and advantages of the electronic format and provides a useful discussion of the stages of development of text transmission and formatting standards that must evolve if the electronic journal is to realize its potential. Hazen (1991) stresses the demands that different "mixes" of formats (electronic and paper) in different disciplines will place on libraries, an issue also addressed by Dugall.

The spring issue of *Library Trends*, "Electronic Information for the Humanities," includes eleven papers that raise issues such as the role of the library as publisher of electronic texts (Sweetland); the complications relating to the storage, archiving, and preservation of electronic journals (Stoller); and the impact of electronic information technologies on various humanistic disciplines. Themes that emerge repeatedly include the high added cost incurred by electronic texts; the low priority given in the academic reward system to development of full-text databases; the likelihood of a wide mix of formats and technologies for a long time to come; the power of searchable, interactive text/image/sound databases and of the ability to work in an integrative manner with vast numbers of texts electronically; the enduring advantages of paper-based publications; and the problematic role of new electronic formats in scholarly communication and its implications for the library in defining and maintaining the scholarly record.

Shreeves reviews the selection criteria for electronic materials and describes those shared with print-on-paper publications (e.g., quality of the information, relevance to local programs, and cost) and those factors unique to electronic formats (mark-up and tagging, access software, equipment platforms, and standardization). Increasingly, collection management and selection decisions will require that selectors be informed about these "technical" areas. Shreeves also points out that the

technology of information provision is changing faster than the social and cultural context in which humanistic scholarship occurs. This important observation is fundamentally a political one: whose research will the library be supporting with these very costly resources? Shreeves asserts that the availability of electronic texts has yet to influence the kind of research being undertaken in most humanistic disciplines, and he urges librarians to "act as facilitators providing scholars with the resources necessary to develop and test new models."

To close, it seems appropriate to consider how new electronic formats will disseminate information and scholarship about collection development itself. In the last two years we have seen a remarkable proliferation of listservs and other electronic media dealing with issues relating to collection management. Which of these new tools should be used as a source for articles such as this? This year's review cites for the first time a document that was distributed primarily electronically. Although much of what these electronic forums presently convey is ephemeral and does not meet the traditional requirements of scholarly publishing, they represent a new genre of communication made possible by new technologies, and they will become important resources in defining and shaping collection development as we chart it annually in this review.

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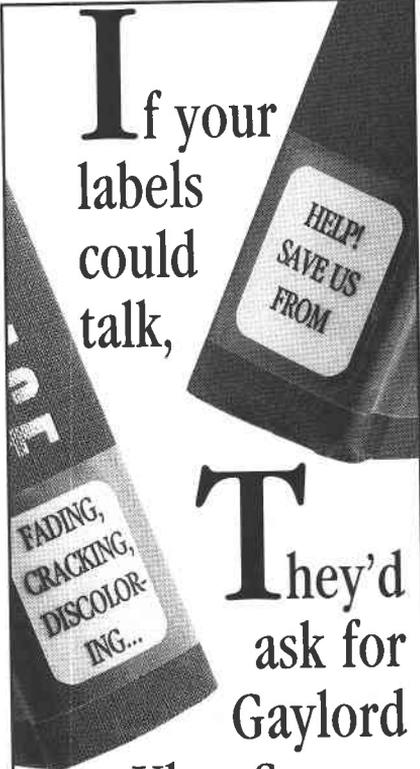
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A Widening Circle: Preservation Literature Review, 1992

Jeanne M. Drewes

If one of the goals of preservation professionals is the integration of preservation strategies within the rest of the organization, then 1992 showed movement toward that goal. The number of preservation-related articles that appeared in the general literature shows this developing integration. The trend toward further experimentation and testing of new technology gives every indication of continuing. More and more expertise will be required to keep current as technologies change. Complicated issues continue to expand as preservation tries to keep up with the changing face of technology, while still pursuing new solutions to ever-present problems.

If one of the goals of preservation professionals is the integration of preservation strategies within the rest of the organization, then 1992 showed movement toward that goal. The number of preservation-related articles that appeared in the general literature shows this developing integration. While much preservation activity continues to be reported in the primary preservation publications—*Abbey Newsletter*, *Alkaline Paper Advocate*, *Conservation Administration News*, *New Library Scene*, and *Restaurator*—preservation issues also are being covered in other specialty publications such as *CD-ROM Librarian* and *Online* and in publications for archivists such as *Archives* and *Museum Informatics* as the focus of preservation expands. This bibliography covers the issues of preservation in a broad spectrum of publications but does not cite highly technical literature or the regular series and columns in the strictly preservation publications, such as DeCandido's "Out of the Question" in *Conservation Administration News* or

Parisi's "President's Column" in *New Library Scene*. Both English and foreign-language publications are cited, but all titles are given in English. In some cases citations have been given for excerpts and for full reports. This is a conscious duplication to allow easier access when a report might not be readily available; it also emphasizes the broadening publication circles of preservation topics.

The number of preservation-related articles in diverse publications reveals two trends. On the one hand, preservation issues are becoming more broadly recognized within other library functions. For example, there is a connection between bibliographic instruction and preservation, and security of computer hardware and software is a preservation concern, as is determining criteria for archiving electronic mail. The breadth of preservation advocacy is shown in the larger number of librarians who see preservation as part of their job. On the other hand, preservation professionals are recognizing the converging preservation issues of archives,

museums, and libraries. As preservation issues become more and more complex, the need for wider and wider circles of information sharing is evident. Preservation professionals need to have a foot in preservation while still having a foot in archives, or public services, or electronic media development, or a variety of other areas. The interrelatedness of many issues as they affect various formats makes it difficult to easily segment areas of interest. For this reason no arbitrary division has been made in this article, as is usually done.

Preservation is a maturing profession as evidenced by the broadening base and by its broadening recognition as seen in the literature. The number of articles on people and programs in the more general literature (Andreae, Brilliant, Burgess, Deitch) supports Patterson's opinion of preservation as "growing and far-flung," as he states in his *Conservation Administration News* fiftieth issue anniversary editorial (July 1992). It should also be noted that *New Library Scene* celebrated ten years of publishing in 1992. A number of "history" publications (Cushman, Ogden, Slide) further show the maturation of the profession.

It was a year of growing publication activity for the Commission on Preservation and Access. Nearly all topics of preservation were covered in one publication or another, from international cooperation, to microfilming, to digital technology as a preservation solution and as a preservation concern. A distinguishing characteristic of this year's literature is the large number of articles that deal with foreign preservation programs. In addition to the Commission publications on international preservation cooperation, there was a wide variety of articles about foreign preservation efforts including those in Cambodia, Russia, and China (Chepesiuk, Dobouloz, Shapkina, Thouin). Canada continues to move ahead on a national plan (Advisory Committee).

In looking at previous years of *LRTS* review articles, a number of interesting connections appear. It was in 1979 that "Preservation" was first included in a review article title, with collection develop-

ing the meshing of collection development with preservation (Child, Claeson, Cunningham-Kruppa, Dannelly, Heitshu). These articles were based on a 1991 AMIGOS conference. *The Collection Building Reader* has a chapter on preservation issues by Byrnes. The 1979 *LRTS* review article covered the White House Conference on Library and Information Services (WHCLIS). At that time preservation did not find expression in WHCLIS recommendations; the 1991 WHCLIS conference had three preservation recommendations as enumerated in Schnare's article.

The NEH funding for preservation began in 1980 to "save endangered humanities resources." 1992 saw several evaluative articles about continuing government programs: DeCandido on NEH, Sutherland on Title II-C grants, and a report on the needs of the National Education Library (Morra).

It was in 1982 that preservation was established enough to warrant a *LRTS* review article of its own. Then, deacidification was looked at as the hoped-for solution; current articles relate the "how" of institutions progressing toward deacidification as just one aspect of an overall preservation program (Barbe, CIC Task Force, Jones, Pacey, Sparks). Toxicity, environmental safety, and the effect of processing on materials continue to be a concern. Helen Burgess, in an interview with *Canadian Library Journal*, clarifies the Canadian studies being done on the three major commercial companies, Richard Smith's Wei T'o, DEZ by Akzo, and FMC (which produces MG3). The completed studies should be very useful in determining the best results from each of these products, which react differently to different bindings, papers, and adhesives. There are a number of articles about surveys for determining brittleness and pH content of paper (Akio, Nickerson).

A review of review articles also shows that much of the effort given in the earlier years toward establishing permanent paper requirements has paid off. Fewer articles address this once pressing need as more publishers switch to alkaline paper (Coutaz, Slavin, Wayne). The hot commer-

cial bindery issue of rounded versus flat-backed binding carried over as an issue from last year (Fairfield, Larsen), and no definitive answer is in sight.

The majority of articles in the first five years of preservation review focused on programs, the "how we do it here" article; in 1992 there is less emphasis in this area (Anglim, Cook, Cooke, Rhys-Lewis, Sedinger, Thouin). In 1992 the articles might provide fewer ideas but show the continued expansion of preservation in more types of libraries. The American Association of Law Libraries (AALL) recently completed a preservation policy ("Preservation treatment . . ."). The sharing of treatment techniques remains a constant topic from the earliest articles to the present (Koestler, Palmisano-Drucker, Stranger, vonWickt). The ideas on pest control using environmentally safe materials are particularly interesting. Disasters, an ever-present danger, remain an important issue for articles and books (Balloffet, Butler, Fortson, Gertz, Shapkina). Nonbook formats expand the necessary disaster-recovery techniques (Henrich, Nash). There were a number of interesting articles on the issues of security/mutilation (Adewoye, Huntsberry, Schumm). Preserving collections from theft and mutilation has come to include concern for theft of computer hardware and problematic viruses affecting software (Flanders).

The new edition of the *RLG Preservation Microfilming Handbook* is an important addition to the literature. Well organized, it is a useful guide for beginning microfilming programs as well as a helpful reference tool for established ones. Rouyer clarifies several microform issues; the new standards for film storage point up the correlation between relative humidity and temperature and silver-coated film as a standard. Kesse's survey of micropublishers is both reassuring and troubling. While for-profit microfilm generally meets preservation microfilming standards, there are also questions concerning ownership of "masters."

The strong showing of nonbook format articles shows a trend that continues to develop. Magnetic media, audiotape, and moving pictures are all areas of continuing

preservation research. While paper remains a major focus, other materials also beset by the hands of time and misuse are receiving more and more attention. But the use of technology to assist in preservation operations also appears in the literature. Valauskas explains how the Biblioteka Akademii Nauk used Macintosh software to create a tracking system for the fire- and water-damaged books left from the 1988 fire. Davis describes a software package written specifically for conservation tracking.

Bouley's article on the testing of CD-ROM for archival use points up the need for preservation librarians to become more knowledgeable about technology and to learn to evaluate the various studies that have been published. Bouley clarifies information about tests for durability, stress resistance, and longevity. While the major publication describing the Cornell/Xerox/CPA digital image project was from the Commission on Preservation and Access, partial reprints were also available in *The Electronic Library* and in the *Quarterly Bulletin of the International Association of Agricultural Information Specialists*, as well as inclusion in the *Advances in Preservation and Access*, volume 1, by Meckler. The wide distribution of reports on this project highlight its import. The value of creating machine-readable images that can also give excellent paper copy is becoming apparent. Waters has two Commission publications that explain the Yale "digitizing images from microfilm" project. Even while projects are attempting to save rare paper materials by storing the images on CD-ROM, archives and libraries alike are beset with the question of how stable CD-ROMs really are.

Magnetic media continue to pose preservation problems that are unique to the form itself. The necessary preservation methods for magnetic tape include such strategies as refreshing files and upgrading the files to newer software as it becomes available.

The loss of valuable research material from less formal electronic files, such as bulletin boards and electronic mail, poses yet another legal issue beyond the still perplexing copyright issue for preservation

microfilming (Oakley). The ephemeral nature of electronic mail poses problems even while its use is making more widely available the proceedings from conferences. One example is the Library of Congress "Workshop on Electronic Texts" available by FTP from seq1.loc.gov.

Copyright issues continue to be a topic of discussion in the preservation literature. The projects that are converting paper to digital or image media are for the most part using materials that are not copyrighted. Still, the issue of the price of copyright in a digital medium continues to puzzle the community. The bringing together of various groups, all with a preservation concern, is a trend that will doubtless continue as more and more preservation activities include new technologies. The need to address the preservation of a variety of electronic media is being recognized more strongly as seen in the literature. This expansion of preservation's charge and challenge reflects a maturing profession. Such issues as quality versus quantity, searchable texts versus image, the wide variety of library formats including motion pictures, sound recording, and pictorial collections suggest the difficulties in expanding the charge far beyond the book. The need to duplicate fragile materials without harming them is yet another issue as information is converted from paper to electronic or micro format. As more and more people learn to access the various systems, demand for files will continue to grow. Indexing and text versus image are issues as well. The NAPA report on archives of the future also addressed the issue of electronic databases (National Academy, Sprehe).

The large number of published conference proceedings helps to disseminate information among the various groups working on preservation projects. The trend toward further experimentation and testing of the "new technology" (I wonder how long we can continue to use that term) gives every indication of continuing. More and more expertise will be required to keep current as technologies change. The complicated issues continue to expand as preservation tries to keep up with the changing face of technology, while still

pursuing new solutions to ever-present problems. The circle grows.

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The Anabasis from Analog to Digital Escalates: The Year's Work in the Reproduction of Library Materials, 1992

Thomas A. Bourke

Issues relating to the reproduction of library materials have now proliferated far beyond the traditional practices of microfilming and photocopying. Traditional activities in the reproduction of library materials in the areas of microfilm and electrostatic photocopying continue to be brisk, but new electronic applications long technologically possible are becoming more economically feasible and are making their own distinctive niche in the field of document publication, reproduction, and delivery. The impact that the new technology will have on the old promises to be enormous. The role of hybrid technologies for the reproduction of library materials in the digital age has yet to be clarified. The increasing use of electronic imaging will not mean the displacement of older micrographic and paper-based document reproduction and delivery services. Rather, an increasing dependence upon electronic digital imaging will continue for current material that is more heavily in demand.

As was aptly pointed out in last year's review article on the reproduction of library materials (Pearson), the issues relating to the reproduction of library materials have now proliferated far beyond the traditional practices of microfilming and photocopying. It has now become an annual refrain on the part of the contributors to this series of year's work review articles to bemoan how difficult it is to establish the boundaries for selecting topics to cover and citations to list. This contributor and this article are no exception. Indeed, there is increasing dependence upon digital electronic imaging with applications in optical scanning of pre-

viously published print and microform material, original electronic publishing, and "just-in-time" document delivery. There are also myriad related copyright conundra. New applications of electronic imaging are often at the expense of traditional analog media such as print, microfilm, and photocopy. Recent rapid developments in this dynamic area make this article especially difficult to contain within reasonable bounds.

Therefore, certain limitations have been strictly applied. Only items with an imprint date in 1992, including selected reprints, or describing 1992 activities and issued in early 1993 have been included.

Items relating to the reproduction of library materials by (1) the reformatting of previously issued material in either microform or electronic format or (2) original publication in electronic digital format offering remote access on a network and/or electronic document delivery are included. Items about copyright issues in document delivery and library photocopying and about licensing agreements for electronic media are included. Items describing the uses of electronic imaging primarily for library technical services or reference, or for commercial and industrial purposes, are excluded. News items about library preservation projects using micrographic or electronic imaging technologies are included. American National Standards Institute and Association for Information and Image Management standards and articles about standards are included if they are relevant to the uses of micrographic and electronic imaging technology for the reproduction of library materials within the scope of this article. Standards relating primarily to commercial and industrial purposes are excluded. Product announcements are also excluded. No limitations have been imposed as to place of publication or the research or nonresearch orientation of the forum in which published. Naturally, as is to be expected of an annual review article prepared under a tight deadline, some relevant material has doubtlessly been overlooked, for which apologies are offered in advance to any authors who might feel offended.

This past year was marked by an extraordinary interest in the potential of electronic imaging for original publishing, networking document delivery on demand, and the digital reformatting of both source document material and microforms. The glamor surrounding electronic publishing has impelled Ann Okerson, director of the Office of Scientific and Academic Publishing at the Association of Research Libraries (ARL), to dub it the "1990s debutante" (Okerson 1992B) and to extoll its potential in allowing academia to take back the fruits of its own research from the traditional publishing industry and publish them itself in the future in electronic format on the emerging net-

work. Increasingly there is interest in examining new economic models for networked information.

ELECTRONIC PUBLISHING

In addition to Okerson's work, the potential for scholarly publishing of electronic journals on the emerging network has been discussed by Arms, Bailey (1992B), Barschall, Boss, B. Butler, Lynch, and Young. Economic factors pertaining to this new form of electronic publishing have received extensive treatment. Bailey (1992A) has described the Coalition for Networked Information's Acquisition-on-Demand model. Both Getz and Grycz have presented an economic view of electronic publishing. Kutz has treated the touchy issue of whether readers should contribute to the cost of scholarly electronic journals, while Lyman has examined whether electronic publishing over the network will reduce the cost of scholarly information when compared with traditional paper subscriptions. Peters has examined the making of a market for networked information and a proposed program for licensing electronic uses. This program, designed by the Coalition for Networked Information, is known as Rights for Electronic Access to and Delivery of Information (READI). This READI program is intended to facilitate a contractual arrangement between subscribers, publishers and copyright holders covering the use of material in electronic format.

COPYRIGHT, PHOTOCOPYING, AND DOCUMENT DELIVERY

The increasing use of electronic publishing has intensified the longstanding conflicts regarding the twin issues of copyright and document delivery. An editorial in *Library Journal* points out the tension between publishers and librarians on projected uses of the National Research and Education Network (NREN) (Berry). It points out the difference of opinion between those such as Peters, who favors marketplace agreements to protect copyright until technology can monitor NREN, and

Valauskas, whose article on the need of libraries to know their electronic rights maintains that libraries are the intellectual intermediaries of electronic information and have the fair use of it.

Sustained pressure on the part of the Association of American Publishers (AAP) has been mounted in an effort to compel compliance from U.S. libraries with AAP's position on photocopying and document delivery, including payment of applicable royalties to the Copyright Clearance Center (Association of American Publishers 1992A, 1992B). AAP has been especially concerned about the use of overseas sources for document delivery. In tandem with its position paper on cross-border document delivery, AAP has sent a direct mailing to "document delivery services that respect copyright." This mailing requests return of a questionnaire informing AAP of what percentage such services receive from overseas sources and which sources are most often used.

The acrimony between publishers and libraries over complicated copyright issues in a litigious environment was intensified in 1992. A suit brought by several scientific publishers charging that the copying done by Texaco, a profit-seeking company, cannot be justified under fair use under Section 107 of the Copyright Act of 1976 (17 U.S.C. 107). Texaco was judged guilty of copyright infringement by copying scientific articles for internal use (*American Geophysical Union v. Texaco Inc.*, 802 F. Supp. 1 [SDNY 1992]). This suit followed a similar suit against Kinko's Graphics in 1991 (*Basic Books, Inc. v. Kinko's Graphics Corp.*, 758 F. Supp. 1522 [SDNY 1991]).

The ramifications of these two decisions in support of the plaintiffs upon library collection sharing, interlibrary loan, photocopying, and document delivery are not yet clear. Concern about copyright issues in the library community has heightened recently. A detailed working paper prepared for the ARL addresses recent developments and future issues concerning copyright issues of concern to both libraries and universities (Crews). It cautions that libraries and universities must be careful not to read either the *Kinko* or *Texaco* decisions more broadly than neces-

sary. It concludes that a careful analysis of these two decisions shows that fair use is alive and well and continues to offer significant benefits for nonprofit educational purposes.

However, it is becoming more evident that copyright holders and publishers are bringing pressure to bear upon photocopying and document delivery operations in libraries. It is likely that library photocopying services, including profit-making document delivery services run by libraries, will be increasingly forced to pay royalties either directly to copyright holders or to reproduction rights organizations such as the Copyright Clearance Center in the United States or the Copyright Licensing Agency in the United Kingdom. Vendors of information in electronic format will be insisting upon site licensing agreements or metered copying. One publisher's viewpoint has been given by Campbell, which offers the incentive of reduced subscription costs to libraries due to increased publisher revenue. Another publisher examines a national site license agreement (Hunter). Peters, who is director of the Coalition for Networked Information, has discussed a proposed program for licensing electronic uses. A related "librarians' solution" proposes raising the cost of photocopying in order to increase the demand for private subscriptions, which "might [*sic*] result in publishers' decreasing library subscription prices" (Kingma). A glimmer of hope and sanity can be found in an attempt to arrive at a "trade-off between articles on demand, site licenses, subscriptions, and other forms of article acquisition, based on both demand and supply characteristics" (Drake).

Interest continues in improving interlibrary loan operations, including photocopying. Seaman has examined the problem of unfulfilled OCLC Online Computer Library Center, Inc., lending and photocopying requests. Belbenoit-Avich has discussed the French dependence on the British Library Document Supply Centre. The Association of Research Libraries Committee on Access to Information Resources issued a preliminary paper on maximizing access and minimizing cost (Baker). It is based on a priority activity of

reconceptualizing interlibrary loan and document delivery, employing technology to make it less labor intensive and identifying cost models for alternative configurations and delivery mechanisms. Chappell (1993) has discussed how James Madison University (JMU) has developed a pilot document delivery program as an alternative to ownership. The goal is to meet undergraduate literature needs with next-day delivery. Statistics kept include costs associated with READI, previously discussed in the section "Electronic Publishing," and indicate that JMU is benefiting from READI. JMU absorbed READI costs in order not to affect other ILL borrowers.

MICROPUBLISHING

Interest in commercial micropublishing seems to be waning. Perhaps after all these decades of intense interest and activity there is little new that can still be said. Publishing of current newspapers, serials, and patents in microform continues at a brisk pace. Several large, ongoing microform publishing projects are still under way. However, new product announcements in scholarly research material in microform are few. Economic hardship besets library acquisition budgets now increasingly strained by the welter of electronic products available. Retrospective research collections in microform have always been discretionary purchases. When monies in library acquisitions budgets are tight, they tend not to sell well. Success stories of recent micropublishing projects covering Quebec (Carpentier), Europe (Goldman), and the Third World (Howell) appeared.

The RLMS Micropublishing Committee, formerly part of the Resources Section, published the results of a survey of microform packaging undertaken in 1990 (Via). This survey addresses the concern that micropublishers might not necessarily be aware of the long-term importance of microform packaging. Based on the results of the survey, it is a goal of the Micropublishing Committee to convince all publishers and librarians that packaging for storing permanent microform collec-

tions be made of materials that conform to existing and future standards that specify the principal physical and chemical requirements for boxes, envelopes, and other enclosures.

A survey of micropublishers commissioned by the Commission on Preservation and Access was issued (Kesse). The survey of micropublishers was based on a questionnaire developed and pretested in 1990 by the American Association of Law Libraries under contract to the Commission on Preservation and Access. The report on the pretest originally submitted to the commission in September 1990 was reprinted in 1992 (Meredith). After the pretest was completed, the commission contracted with the Research Libraries Group, Inc., to manage the full survey conducted in 1991 by Kesse's institution, the University of Florida. This survey is not primarily concerned with commercial micropublishing as an industry but rather with the adherence of commercial micropublishers to accepted standards for preservation microfilming, an area in which there is still intense ongoing interest. However, one peripheral finding of the survey is that there are many micropublishers for whose products bibliographic records are currently listed in machine-readable databases but who have moved, sold all or portions of their businesses, or are no longer supplying microfilm copies from preservation or printing masters.

Kesse's survey was driven by an apprehension that the needs and requirements of commercial micropublishers to select materials that are marketable and to microfilm them for sale at a competitive price are not necessarily compatible with the goals of preservation microfilming. The general findings of the survey are reassuring when comparing microfilm produced for profit and that produced specifically for preservation purposes. However, the survey also shows that general adherence to preservation standards could be improved significantly by all types of micropublishers.

PRESERVATION MICROFILMING

Two major technical works in preservation microfilming appeared. These are the

RLG Preservation Microfilming Handbook and the fourth edition of *Micrographic Film Technology* (Elkington; Bartoli). A personal case history of how to establish a preservation microfilming service was prepared by Zeitschik. Technical tips on preservation microfilming by an eminent expert were passed on (Dorfman 1992A, B, C). Two pieces on the uses of color microforms appeared (Flowers; "Research on the Use of Color Microfilm"). Storage of microfilms was discussed by Unger. Rouyer addresses specific storage issues for silver gelatin microfilm concerning humidity control. Reactions by several experts to the 1991 final report of the Image Permanence Institute to the NEH Office of Preservation on the preservation of safety film were reported ("Science Panel Comments").

Descriptions of cooperative preservation microfilming efforts have been given by Allison and by Clements. Uses of microfilm for scholarly research have appeared by Alston, J. Black, Davis, Izbicki, Lemon, and Pritchard. DeCandido has raised the touchy issue of whether NEH's control over criteria for selection of material of preservation microfilming is excessive to the point of raising First Amendment concerns. A field survey of preservation microfilming activities around the world has been compiled for the Commission on Preservation and Access (Rutimann 1993).

MICROGRAPHICS STANDARDS

Several new standards authorized by the American National Standards Institute were released in 1992. Issues addressed included cores and spools for recording equipment, specifications for stability for silver gelatin and diazo microforms, a glossary of terms relating to stability, a new version of the standard for microfiche, recommended practice for microfilming newspapers on 35mm roll film, and microfilm splices (American National Standards Institute 1992A-G).

The issue of the permanence of images recorded on traditional library microforms has been heightened the last several years due to the publicity received by several research projects at the Image Per-

manence Institute (IPI). An article by a noted micrographics expert and IPI research consultant addressed the status of permanence standards for imaging materials (Adelstein). In 1988 the term *archival* as paradigmatically used to mean "permanent" was dropped from the old *ANSI PH1.41* silver gelatin standard (Adelstein 1991). It was replaced with the term *stability* in *ANSI IT9.1-1988*, now reissued as *ANSI/NAPM IT9.1-1992* (American National Standards Institute 1992D). The new measure of stability is life expectancy, or LE. This is a relative term, but of course silver gelatin is rated with a longer LE than its vesicular and diazo counterparts. The same criterion of LE is now also to be used for magnetic and optical media, thus entirely avoiding the label *archival*.

PRESERVATION USING DIGITAL SCANNING

Preservation using digital scanning of previously published text and images can be done using two methods: one is to directly scan the original material and the other is to scan a microform image previously made from the original. It should be noted that there is a growing awareness that there is no essential conflict between analog microfilm and digital electronic imaging. Rather, both can be used harmoniously in an overall holistic approach to the preservation of deteriorating original text and image. A hybrid approach to preservation has been advocated by three industry leaders from firms with expertise in both photographic microfilm and electronic approaches to image capture and preservation, one at Eastman Kodak (Greco) and two at UMI (Fitzsimmons; Willis). Several articles addressed technical considerations involved in scanning from microfilm (Broadhurst; Coleman; Hendley; Sturt; Wescott).

Specific recommendations about the respective roles that both analog microfilming and digital electronic imaging can play in the ongoing preservation efforts are given in a report by the Joint Task Force on Text and Image of the Commission on Preservation and Access (*Preserving the Illustrated Text*). It points out that high-

contrast black-and-white microfilm does not reproduce half-tones satisfactorily and advocates alternative technologies such as color and continuous-tone filming and digital electronic scanning.

A major project to scan historical documents documenting Spanish administration of the New World at the Archivo General de Indias, Seville, Spain, has been described by Rutimann and Lynn and by Kaebnick. A hybrid approach is used when appropriate. All materials in color, primarily maps, are first microfilmed on Cibachrome and then digitized. A project at Yale University to move ahead with Project Open Book, the conversion of 10,000 books from analog microfilm to digital format is in the organizational phase (Waters and Weaver). It has as its master plan the 1991 Commission on Preservation and Access report entitled *From Microfilm to Digital Imagery*, prepared by Waters. Kenney described a similar project, but on a smaller scale, at Cornell (1992A). The projects differ in that Yale is scanning from existing microfilm while Cornell is scanning originals. A summary of the progress at Yale and Cornell was released (Cornell; Yale Advance). A report on digital scanning in academic libraries appeared (Willett).

Technical literature on digital electronic imaging is becoming plentiful. Guides to the technology appeared by Avedon, by D. Black, and by Dailey. AIIM released a new edition of its glossary of imaging technology (*Glossary*) and its annual survey of the information and image management industry (*Information & Image Management*). Saffady has offered three articles of digital electronic imaging (Saffady 1992A, B, C). Cox examined the importance of information technology standards for archivists, and Tomer has done the same for libraries. Kang reported on color scanning. The role of the Joint Photographic Experts Group (JPEG) still-image data compression standard for the digital reproduction of grey scale or color images has been discussed by Miller and by Pennebaker.

Issues concerning the preservation of new digital electronic technologies have been examined by Lesk (1992A) and by

Waters. It is important to realize that the preservation of digital media has aspects quite different from the preservation of analog hardcopy and microform. As Lesk points out, digital media can be copied without error. Thus survival of digital information does not depend upon the permanence of a particular object but upon widespread distribution of the information and regular refreshing of it onto new technology. Reformatting, instead of being a last resort as material physically collapses, will be a common way of life in the digital age.

BIBLIOGRAPHIC CONTROL OF MICROFORMS

The level of activity and interest in the bibliographic control of microforms continued to be high. The importance of the creation of high-level bibliographic records for both preservation masters and service copies is now recognized on an international level.

The recommendation of the Association for Library Collections & Technical Services (ALCTS) Task Force on Bibliographic Control of Microform Master Negatives was approved by the ALCTS Board at Midwinter 1992 and printed in the *ALCTS Newsletter* (ALCTS Task Force). The task force had been charged in 1989 with developing "guidelines for the bibliographic control of master microform catalog records toward the building of a national database of preservation microform records." The task force made several recommendations. The most important is that ALCTS endorse the ARL *Guidelines for Bibliographic Records for Preservation Microform Masters* originally published in 1990 and reprinted in 1992 (Graham 1992A). The task force also recommended that the provision of subject access be strongly encouraged.

Progress continues on plans to create a European Register of Microform Masters (EROMM); the Commission on Preservation and Access has been acknowledged as an official partner in the preparatory phase of the EROMM project to set up a pilot machine-readable EROMM ("Commission Recognized"). The commission is pro-

viding supplemental funding for the project that has been established by the Commission of the European Communities. Participants in the first phase of the CEC project are the British Library (United Kingdom), the Bibliotheque Nationale (France), the Biblioteca Nacional (Portugal), and the Staats- und Universitätsbibliothek (Germany).

Cataloging of newspapers microfilmed by participants in the United States Newspaper Program (USNP) on OCLC has taken place since the mid-1980s. A description of *The Newspaper Cataloging and Union Listing Manual* has been given by T. Butler. This is the third manual produced for USNP. He discusses the difficult issue of whether to catalog microform reproduction of newspapers as prescribed by AACR2 or to attach all holdings, regardless of format, to the bibliographic description of the hardcopy. He explains how USNP uses the master record convention to describe the various physical formats. He describes this as being a "pre-multiple version of multiple versions," in which the bibliographic record identifies and describes the newspaper as it was originally published. Physical formats such as hardcopy, microform, and reprints are described in the holdings records, which also identify the type of microform and the microform generation.

The multiple versions issue in cataloging microform continues to be vexing. An analysis of U.S. cataloging policy for microform reproductions and multiple versions, along with proposed changes, has been supplied (Graham 1992B). According to Graham, national standards for cataloging reproductions have caused cataloging bottlenecks, gobbled up preservation monies, and required maintenance of numerous duplicate records. In addition, library patrons have trouble identifying what they want in the catalog. USNP and ARL have adopted alternative but conflicting approaches, while LC and CONSER have formed task forces to study the problem. The Multiple Versions Forum held in December 1989 at Airlie House in Virginia recommended the use of a hierarchical structure to collocate "version" records.

MARBI is now charged with revising the USMARC format to accommodate the data needed for implementation of this solution.

Williams has described the cataloging of serials in the last half-decade of the 1980s and examines the expeditious cataloging of microform masters using the ARL guidelines (Graham 1992A), as permitted by OCLC as an exception to its policy of strict adherence to AACR2 as modified by the *Library of Congress Rule Interpretations*. A description of the cataloging of serial microform reproductions at the National Library of Canada (Clark) details the NLC approach to the current debate over the bibliographic control of multiple versions. At NLC the working principle is that there should be a separate record for each distinct physical version of a work. This differs from the Multiple Version Forum recommendation. NLC practice also differs from the LC practice of stipulating that all areas of the description be derived from the original, not the microform, except for a note in MARC tag 533.

CONCLUSIONS

The past year was one of great transition. Traditional activities in the reproduction of library materials in the areas of microfilm and electrostatic photocopying continue to be brisk. New electronic applications long technologically possible are becoming more economically feasible and are making their own distinctive niche in the field of document publication, reproduction, and delivery. The effect that the new technology will have on the old promises to be enormous. The role of hybrid technologies for the reproduction of library materials in the digital age has yet to be clarified. The future experience in the library environment will doubtless mirror recent industry experience documented in several studies by the AIIM. These show that the increasing use of electronic imaging will not mean the displacement of older micrographic and paper-based document reproduction and delivery services. Rather, an increasing dependence upon

electronic digital imaging will continue for current material that is more heavily in demand and for which the economic resources for rapid "just-in-time" access are more likely to be available. In addition, the use of digital reproduction of retrospective material will continue to grow, but at a much slower pace than for current material. Over the course of time it is expected that lower costs for the new technology will overcome to a considerable extent the economic advantages that preservation microfilming of retrospective material still enjoys. The current year promises to be an interesting one in the reproduction of library materials as emerging trends develop more clearly.

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An Electrifying Year: A Year's Work in Serials, 1992

John F. Riddick

The serials literature published in 1992 is selectively reviewed and listed. Issues regarding current cataloging matters and development of the electronic journal receive the primary focus. Authorship is predominantly academic and thus one sided in representation. To a large extent we have an American perspective of essentially a series of international issues.

U nsung, unheralded and usually misunderstood, the serials cataloger brings a quiet, meaningful order to the chaos of our serials world. Jim E. Cole and James W. Williams must be applauded for their superior editorial performance in capturing the current tides of serials cataloging in their two-issue presentation of "Serials Cataloging: Modern Perspectives and International Developments," appearing in *The Serials Librarian*. In a similar vein the tip of the hat should go to Czeslaw Jan Crycz, who edited a double issue of *Serials Review* addressing the "Economic Models for Networked Information," which ably covers a number of subjects including networks and the electronic journals. In general association with these issues is a new section this year providing coverage of CD-ROM serial indexing tools.

The year 1992 was marked by the publications of several unique and helpful serials bibliographies and articles addressing issues of collection development. Has enough been said about serial pricing? No, but perhaps the obvious is becoming boring or tiresome like an aching tooth. An area where cleverness still reigns is how we

organize ourselves to manage serials in our libraries. Of peripatetic interest are those intellectually sturdy columns, mostly in *Serials Review*, which record in box score-like fashion the popular, the inventive, and the organic trends of our profession.

The serials profession seems to thrive on huge gobs of work, and in consequence its literary and research results are prolific. With shame, not every author mentioned in the associated bibliographic listing can be mentioned in this essay, but thanks be to all of you for your works essentially of 1992, but in a few cases reaching back to 1991 when appearing too late for inclusion in the 1991 review.

CATALOGING AND SPECIFICATIONS

In tribute to one of America's doyens of serials cataloging at the Library of Congress, Cole and Williams struck the right note in dedicating to Dorothy G. their gathering together of twenty-three distinguished articles focusing our attention on the present aspects of their trade. The articles of Henderson and Boydston treat the initial and then the continued education of serials catalogers. Williams provides

an overview of cataloging developments over the 1985–1990 period. Riemer contends that the addition of subject analysis fields in the serials cataloging record is of demonstrable value as he examines the work of the CONSER Subject and Classification Task Force. Bross indicates that “AACR2 would not have worked for serials without the development of the serial uniform title.” Turitz takes an historic look at the development of the uniform serials title and then discusses its use in the framework of union lists of serials. Osmus takes up an innovative approach to the matter of recataloging serials within the parameters of a decision-making model used by business. These broader studies are followed by a number of institutional case studies. Clark and Jones team up to examine the issues of cataloging serial microforms at the National Library of Canada; Geer-Butler summarizes the history of the cataloging and inventory phases of the Maryland newspaper project; Engel describes the procedures and practices of copy cataloging at the University of Illinois at Urbana-Champaign; Manson describes the treatment of serials in the NOTIS online public catalog at the University of Iowa; and finally Osmus and Morris report on an ongoing time and cost study for the cataloging of serials at Iowa State University.

Set in an international perspective, Callahan's treatment of ISBD(S) (Rev.) and AACR2 (Rev.) takes an American view of their interrelationships, while Mullis does nearly the same for the British Library. Mullis additionally provides a general view of the use of AACR2 in serial cataloging in the United Kingdom, as does Dini in Italy. Rather specialized studies are included in Madison's examination of the impact of the name main-entry heading in the online environment and a study by Sheble and Havens on the Linked Systems Project and its interrelationships with serial cataloging. The work of Cole and Williams closes with another ubiquitous article on latest-entry cataloging by the clever Case and colleague Randall.

Iowans are workaholics; active serials catalogers are Iowans; thus Iowan serials catalogers are hardworking. Within the confines of this loose logic and in the pages

of *Cataloging and Classification Quarterly*, Christ and Lin of the University of Iowa report on a massive project involving about 18,000 serial titles in a retrospective conversion in preparation of the local NOTIS system. With always the last word, Iowa State University's Cole shares his insights on the serials title page as regards the strictures of AACR2.

NETWORKED INFORMATION AND ELECTRONIC PUBLISHING

In March 1991 an ad hoc group of representatives of the serials information chain extending from authors to librarians met in Monterey, California, to discuss networks and electronic publishing. From that conference, Czeslaw Jan Grycz has elicited a number of articles for inclusion in a special double issue of *Serials Review*. Peters presents a concept for the licensing of printed and electronic materials, thus enabling their broad availability over research-based networks. Getz, Noll, Steinmuller, Lesk, and R. Katz contribute their thinking on the economic issues of electronic publishing, scientific journal prices, pricing of electronic information, and management analysis of institutional costs of scholarly communication. Barschall's keen vision of the pricing structures of journal publishers moves to cost and distribution issues of the CD-ROM journal. Schultz, Reich, and Harnad address various issues emerging from the *Report of the Task Force on Electronic Information Systems of the American Physical Society*. Schultz looks for economic support structures to support a worldwide information system. Reich looks from above the swirl of developments to offer a view from the vantage of an academic research library. Harnad advances a step seeking an evaluation of electronic publishing eschewing the too-familiar restraints commonly associated with print publications. Jensen and Lyons cover the important topic of legal matters of copyright and intellectual property in the electronic milieu. Hunter (1992B) takes another slant on these issues when she discusses the issues of publisher-specific site licenses. While Kutz reexamines the 1969 proposal of a national periodicals

center, Drake looks to buying journal articles on demand. From a position of great experience, Bailey looks at the inherent characteristics of information on demand. Kahn suggests a sense of caution in facing the scale of "intelligent technological techniques" when coping with the mass of information resources. Okerson's view of a diverse community of users and needs clashes provocatively with Young's more circumscribed model as described in his "National Corporation for Scholarly Publishing." Lynch provides an overall assessment of network resources, standards, and structures.

Two other conferences produced important visions regarding electronic publishing. Feldman (1992A) reports on a February 1992 conference of 163 publishing representatives, where optimism grew regarding networking, electronic publishing, CD-ROM products, and on-demand services. Similarly, at an AAP seminar in New York, Kuta summarizes the economic issues facing libraries and their turning for answers within the scope of document delivery. Publishers explored a number of new visions encompassing the format, media, and packaging of the journal.

From the Apple Computer Library, Hawley approaches the issues of document delivery as a manifestation of on-line searching skills. From Biblio Data, Orestein presents a fascinating case for online availability of information when considering the lag time of other products. Of immense bibliographic value is MacEwan's literature review of electronic technologies.

CD-ROM SERIALS

Closely interrelated to the developments, theory, and reality of electronic journal publications is the concrete presence of a number of CD-ROM products. In *Online*, McDermott provides an in-depth analysis of UMI's *ProQuest* CD-ROM system and its application at the University of Southern Maine. In particular McDermott points to the advantages of *ProQuest's* user interface compared to competing products. The growing number of CD-ROM products and their significant costs is

addressed by McKimmie within the context of the academic library budget. He composes his study from the examination of sixteen Association of Research Libraries (ARL) libraries.

The *CD-ROM Librarian* offers significant assistance in its column "Optical Product Reviews." Various authors provide in-depth critical looks at new CD-ROM products in the marketplace. In the course of 1992, this column reviewed: *Science Citation Index, America: History and Life, Music Index, Academic Abstracts, Wilson Business Abstracts, and Magazine Rack.*

COLLECTION DEVELOPMENT

Without money and with little hope, the practice of collection development presently means trying to do more with less. True to the point, Metz provides a brilliant résumé of experiences regarding a cancellation project executed at Virginia Tech. His thirteen steps to consider to avoid fiasco deserves serious consideration. If purchase you cannot, then document delivery you must. Accordingly, much interest must be accorded a rather specialized study prepared by Lee and Myers regarding document delivery requests and the subsequent conclusions drawn about a Veterinary Medical Library's collection weaknesses.

In the course of any year a number of selected lists, core lists, or subject-oriented journal bibliographies are published as whimsy strikes the various authors. This year Roberts and Adams provide separate studies of periodical titles eliciting the mannered quiet charms of the South and southern culture. Scientific subjects drew a number of authors, as Williamson addresses operation research journals; Butkovich, Gomez, and Baker examine geological journal literature from the viewpoint of citation formats; and Brazee looks at guides and directories in the shortwave radio field. Niles and Tarlton team up to provide an annotated bibliography of hospitality administration periodicals in response to the great growth in the number of academic programs throughout the nation. Perhaps it is fitting that, if Poland reached for its independence from the

Soviet Union first, then a bibliography of Polish serials should appear—one of many more that should be forthcoming from Eastern Europe.

SERIALS PRICING

The subject of periodical prices and their increase inevitably raises a good bit of heat but not always understanding. As a base to consideration of journal prices, Alexander offers from the Faxon database comparative price information for the 1989–91 period examined in a multitude of fashions. Kingman and Eppard join forces to offer an extensive analysis of price escalation by studying the equilibrium between the library market and the market for individual subscriptions. They conclude that libraries should “restrict journal use to within the library and to price photocopies optimally in order to encourage an increase in private subscriptions.” Henderson focuses his attention on the changes in periodical prices in their relationship to the changes in the U.S. consumer price index. He assumes a rather tenuous conclusion that budget analysis, forecasting, and understanding of publisher price might emerge from his study.

From this macro view three microlite studies of pricing issues present individual studies of unique interest. Martin points to the dynamic financial impact of electronic services and databases on budgets traditionally established for the budgeting of books and serials. Christensen sharply examines the cost of chemistry journals held by Brigham Young University over the period 1980–90. His study encompasses the use of the consumer price index and ISI impact factors, concluding that commercial publishers charge four times that of association publishers. Garg and Bali join to take a unique look at the amount of advertising appearing in *Nature*, *New Scientist*, and *Science* as an encumbrance to the costs of transporting these titles to the Third World.

When discussing serials pricing never should Tuttle’s work with e-mail list server, *Newsletter on Serials Pricing Issues*, be forgotten for its currency of data and provoking dialogue.

SERIALS MANAGEMENT

“Marley was dead: to begin with. There is no doubt whatever about that.” So might be the serials department. Barker codifies a growing national trend to amalgamate the functions of the serials department with those of the acquisitions unit from his personal experiences with such a merger at the University of California, Berkeley. In response to the different needs at Emory University General Libraries, Jasper and Treadwell report how collection development and acquisition functions including serials receiving and order were united in one technical services department.

In more specialized studies, Hughes, Maroney, and Shelton surveyed thirty-eight libraries in the Southeast as regards periodical management practices with particular study of the physical arrangement of periodical collections. Cooper advances new methods in identifying and processing errata and corrections to medical and scientific journals.

CONFERENCE REPORTS

Serials librarians and related members of the serials information chain would appear to be a gregarious lot from the number of conferences they attend and the subsequent fine reports they share with us. Suffering a touch of the Anglophile, one must show particular fondness for the deft descriptions of the 1991 and 1992 Annual Conference of the United Kingdom Serials Group provided by Rast and MacLennan. With a touch of pride, one reads Hepfer’s report of the NASIG Conference at Trinity University. The first and second Faxon Institutes are reviewed by von Wahlde and Coutts, while O’Neil shares the happenings of the Annual Feather River Institute.

END PIECES

Each year a number of eclectic pieces defy categorization. Pitts Hawks and Alexander’s interview of Richard Rowe reveals some interesting perceptions of scholarly publishing and intellectual communities (Hawks 1992A). Pope’s study investigates the citation accuracy of ten library science

journals. What's in a name? Lawson senses quite a bit in his most unusual study in the science of names, onomastics, concerning the titles of journals. Schumm's study of the mutilation of popular journals at three academic libraries reveals consistent patterns of destruction.

SUMMARY

Perhaps the emphasis on cataloging and the electronic journal rightly earned its place of dominance in the literature of 1992 as the profession turns to organizing new solutions in the serials information chain. To remember that the various members of that chain are linked, no matter how vexatious that might seem, will in time ameliorate some of the current bashing. Rarely in 1992 were the hopes and needs of the chain's two ends examined, that is, the author and the reader. In the fullness of time shall they be remembered?

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Author or editor with affiliations	Edited by Francis Ames-Lewis (Reader in History of Art, Birkbeck College, University of London).	
Publisher	Clarendon Press, Apr. 1992, 328pp, 216 X 138mm	
Illustrations	16pp plates, bibliography, index	Table of Contents
Binding	HARDBACK/UK £45.00/NEP 0-19-817394-6	
Publication date	Other prices: Export price £45.00	Intended readership level
UK price	A study of aspects of the life and career of Cosimo "il Vecchio" de' Medici, one of the major statesmen of early Renaissance Italy. It considers Cosimo's personality, his political and literary interests, and his patronage of church building, painting and sculpture in mid-15th-century Florence.	
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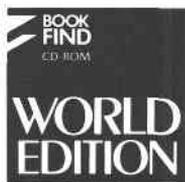
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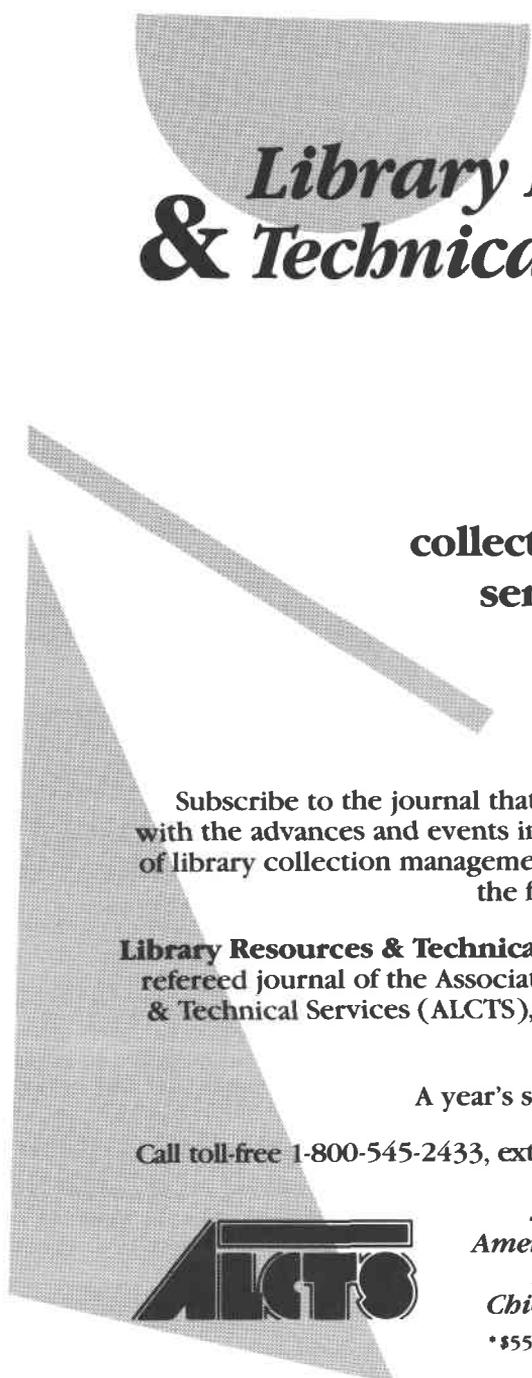


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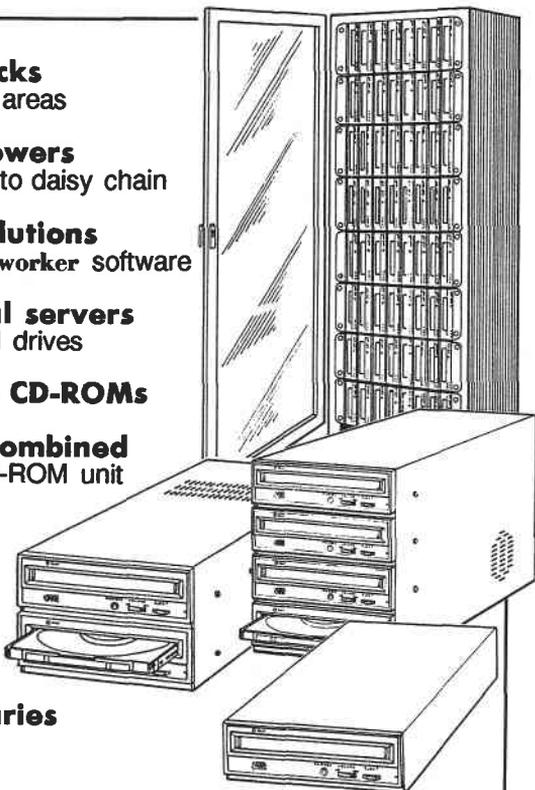
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