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Challenge, Change, and Confidence: The Literature of Acquisitions, 1991

Richard P. Jasper

The acquisitions literature of 1991 reflects a profession glumly aware that the serials pricing “crisis” of the 1980s is an economic fact of life for higher education in the 1990s yet simultaneously intrigued by the impact the emerging networked information environment likely will have on the entire scholarly communication process. Meanwhile, acquisitions as a profession seems to have emerged from the cloisters, and acquisitions librarians, for the most part, seem confident and eager to address the challenges of the 1990s. The emergence and refinement of current awareness publications such as AcqNet and Against the Grain have contributed to this sense of confidence in the face of sweeping change.

Years that read backward the same as they do forward usually come only every 110 years, e.g., 1661, 1771, 1881. But 1991, the last such palindrome year for the current millennium, was different, being only eleven years removed from 2002, the next backward-forward year. Moreover, this eleven-year juxtaposition will not occur again for another thousand years, when 2992 bumps up against 3003.

It was a significant year for acquisitions, too.

In 1991, librarians, publishers, vendors, and scholars realized that the serials pricing “crisis” of the 1980s was no longer a crisis per se but a fact of 1990s life for higher education and that the evolving networked information environment held the prospect of radical change for all our organizations. It was a glum realization and some refuse to mince words, notably John Riddick, who indicates that “collection development is a shambles.” The new age of scarcity constitutes the greatest challenge to face academic and research libraries since the end of World War II. Fortunately, acquisitions librarians and other librarians, as well as other members of the scholarly communication chain, are responding in a thoughtful, creative fashion to this challenge.

Walking hand in hand with the worry over scarcity was an intense interest in the impact new technology, notably the emerging capabilities for networked information, would have on the scholarly communication process. Malcolm Getz, Clifford Lynch, and William Potter each consider the prospects and provide compelling scenarios. Still, most significant was the article by Ross Atkinson, whose description of the changes demanded by the new environment serves as a clarion call for acquisitions librarians.

Richard P. Jasper is head of the Acquisitions Department, Emory University General Libraries, Atlanta, Georgia. Invited paper received and accepted for publication March 25, 1992.
In reviewing the acquisitions literature for 1990, Karen Schmidt (B) indicates acquisitions librarians want “more education, more appreciation, and more professional responsibility.” The literature review for 1991 suggests they got more, both in terms of the numbers of articles and acquisitions topics they addressed and the emergence and refinement of publications particularly concerned with the acquisitions discipline. Welcome additions, although they stood somewhat off to the side, included Buzzy Basch and Judy McQueen’s new monograph on buying serials, which is particularly strong on the topic of negotiating for subscription agent services, the Technical Services Costs Committee’s “Guide to Cost Analysis of Acquisitions and Cataloging in Libraries,” and the acquisitions bibliography created by James Deffenbaugh, Hope Yelich, and Barbara Dean; the latter, however, will soon be in need of updating. Of course, each year some entries, e.g., Operational Costs in Acquisitions, edited by James Coffey, are simply recycled and repackaged editions of previous journal issues; in this case, the Coffey monograph originated in 1990 as the third issue of The Acquisitions Librarian.

Whether this proliferation of material and outlets will ultimately result in what acquisitions librarians need and want is anyone’s guess; it does, however, indicate a new assertiveness, as well as an eagerness and enthusiasm for the future. Carol Chamberlain (B) sets the tone, commenting: “Acquisitions librarianship is maturing, and not only are we ready for the change, we are initiating it on a number of levels.” This confidence is reflected in Acqnet, the new acquisitions electronic newsletter, and the many articles on specific, acquisitions-related activities.

Challenge

Recognition that the crisis in serials pricing was giving way to a long-term reality of constantly inflating prices—for books as well as journals—in the face of stable or shrinking budgets is seen in a variety of articles dealing with budgeting strategies, allocation formulas, and materials pricing.

Budgets for Acquisitions: Strategies for Serials, Monographs, and Electronic Formats, edited by Sul Lee, brought together papers delivered on these topics at the 1990 Oklahoma conference. As usual, Robert Houbeck and Charles Hamaker are particularly prescient; Hamaker, noting that book inflation has lagged only slightly behind price increases for journals, points out that we can no longer assume, as we might have in the past, that the “forces pushing prices and output in journals are different from those creating pricing increases for books.” Houbeck provides an exemplary “list of ideas for enhancing opportunities for increased internal funding,” ideas that seek to align the library more closely with the university’s mission. Roger Hanson reports that this sort of alliance was employed at the University of Utah. On the other hand, Hanson warns that such strategies might result in pressure to transfer cost savings in staff to the acquisitions budget, a counterproductive measure.

Given the limit of funds, it comes as no surprise to find an increasing emphasis on and description of the budgeting process. David Sullivan posits the need for the central library administration to foster “the creation and maintenance of commonly-needed baseline information,” including qualitative tools for evaluating collections, while Dan Richards (B) emphasizes the need for cooperative collection development. Charles Brownson (B) suggests that models, not formulas, may be employed with some success in predicting expenditure outcomes resulting from subject emphases. Likewise, Jane Treadwell and Charles Spornick demonstrate that carefully thought out interpretations of collection assessment results can win increased administration support for collection expenditures. Richards (A) echoes the Treadwell/Spornick findings, suggesting that in the current environment of scarcity detailed selection criteria will become increasingly more important to the collection management process.

Riddick and Carolyn Bucknall both offer their assessments of how libraries arrived at their current predicament. Riddick lays the blame on the usual suspects,
i.e., Reaganomics, “deregulation,” and “new international publishing combines.” Jeffrey Gardner is likewise pessimistic, although his detailed assessment stimulates further thought. Noreen Alldredge, one of the speakers at the first Feather River Institute on “Acquisitions in the West,” presents a cogent discussion of the impact the boom-or-bust cycles inherent in the economy of western states has had on academic and research libraries in that region, while Liz Chapman (A), a librarian at the University of Oxford, offers a British perspective. Len Schrift describes the impact being felt within the vendor community. On a more prosaic note, Dana Alessi, Jan Anderson (B), and Audrey Vanderhoof discuss, respectively, additional strategies regarding vendor relations, single-source ordering, and tentative efforts toward cooperative purchasing, while John Budd provides an overview and reviews the history of allocation formulas, and Fred Lyden provides fund-raising tips.

CHANGE

Ironically, the most provocative article on the changing environment confronting acquisitions did not actually appear until January of this year, although Ross Atkinson presented a form of his article at the ALA Annual Conference in Atlanta in June 1991. Atkinson argues that acquisitions librarians will play a key role in the delivery of information resources within the coming networked information environment, but only if they “begin planning now to expand their knowledge and responsibilities to respond to the new requirements.” Failure to do so, he warns, will result in “these responsibilities . . . [being] absorbed by other agencies in the information services community, probably ultimately to the detriment of scholarly communication.”

Joyce Ogburn (A) recognizes this dichotomy, noting that while “acquisitions is growing in prominence” it also “seems seriously threatened within many library organizations.” Likewise, Christian Boissonnas (B) examines this dilemma as it confronts us individually. David Moltke-Hansen preaches (literally) that librarians “have still not dealt effectively with these transformations” and that “traditional assumptions in new circumstances” are a “recipe for disaster.” Not to be left out, Connie McCarthy notes that bibliographers, too, must serve as change agents, particularly in that they can “help define institutional values.” Charles Lowry is more sanguine in his assessment of the impact on library organizations.

While Atkinson and others address acquisitions’ role in new electronic information delivery systems, Sheila Intner proposes a fundamental rethinking of serials. She calls for a new paradigm, arguing that we need to shift our collection strategies from traditional knowledge-at-rest formats to more dynamic knowledge-in-use configurations and pointing out the important role libraries play drawing users’ attention to materials through online catalogs and other tools. Lynch and Potter echo this thesis. The move toward electronic publishing is irresistible, Potter says, given the convergence of online public access catalogs (OPACs), new online and compact disc databases, exorbitant journal prices, and the rise of national and international networks. Lynch is more cautious, noting that the “effects of general availability of electronic access to serials contents” are not yet fully understood, his concern focuses on how budgets will be “managed and costs controlled in the new world of interacting computers.”

Malcolm Getz addresses the advantages of electronic publications and the implications for funding such services, optimistic that the economies of scale they afford will prove advantageous. Eldred Smith, a professor at the University of Minnesota, proposes resolving the problem of exorbitant materials costs, “the latest manifestation of the instability of the economic system supporting scholarly communication,” through electronic publications. Wayne Perryman, likewise, is upbeat, suggesting additional avenues for modifying the local environment to take advantage of new resources; Greg Anderson proposes that libraries cooperate in apportioning the resulting issues of access and ownership; and Gary Shirk touts strategic alliances between vendors and libraries.
Lest this cause any great alarm, Timothy King notes that the emergence of new electronic scholarly publications is no more likely to eliminate printed products than television displaced radio or than radio shut out newspapers. Moreover, Anne Piternick foresees a long transition period; reviewing previous attempts to replace the scholarly journal, she contends that human factors will pose barriers to widespread adoption of electronic journals. Piternick notwithstanding, Jan Anderson (A) proposes developing a new system for disseminating scholarly research based on the ERIC model.


Electronic publications and their likely impact on the scholarly communication chain were also a topic at the 1990 Charleston conference, whose proceedings appeared in Library Acquisitions: Practice & Theory. Katina Strauch, the conference coordinator, provides an overview. Richard Abel (A, B), founding father of the modern approval plan, laments that libraries have paid too much attention to “information generators” and have given short shrift to “knowledge creators,” a situation electronic networks are only likely to exacerbate. Meanwhile, Kent Hendrickson and Strauch outline the various interests among the different players in the scholarly communication process that will have to be sorted out over the coming decade; these interests are further discussed by Gordon Graham, who draws parallels in the rise of online reference databases in the 1970s.

On a less speculative front, Faxon’s Fritz Schwartz provides an excellent overview regarding electronic data interchange (EDI), a topic that will take on increasing importance as librarians move to the next generation of serials and acquisitions systems. Similarly enlightening is Gail McMilián’s discussion of front-line costs associated with electronic journals and as related to systems, automated environments, reference and public services, collection management, and technical services (storage and retrieval). And in a good reminder that there is nothing really new under the sun Patricia Sabosik compares and contrasts print journal subscriptions and compact disc licensing agreements.

CONFIDENCE

Despite the challenges and changes confronting them, acquisitions librarians still have to contend on a daily basis with the wide range of issues that come with the acquisitions territory: automation, approval plans, vendor relations, and the esoterica of foreign purchasing, accounting systems, the bid process, selection tools, and so forth. Each of these turned up in some measure in the acquisitions literature of 1991, as did numerous reports from conferences. The overall effect is that of professionals coming into their own, confidently sharing their experiences—minor and major successes, trials, and tribulations.

APPROVAL PLANS, THE BID PROCESS, AND OTHER MEANS OF ACQUISITIONS

Always a topic near and dear to the hearts of acquisitions librarians, approval plans rated a number of articles. Given straitened circumstances, Glen Kelly’s approaches to approval plan budgeting are well-considered. Gary Rossi examines the special concerns of small academic libraries, while Sally Somers shows that local expectations can make or break a plan, regardless of the vendor employed. Other entries on approval plans included articles by Peggy Chalaron and Anna Perrault, Mary Bostick, and Marty Warzala. Determining whom to use, of course, can be subject to external rules and regulations; Barbara Winters argues, even so, that competitive procurement can have its advantages, as does Frank Dowd, although he is up-front regarding the associated perils. Ed Buiss’s article was the only entry regard-
ing the gift process. Robert Bravard provides a personal reminisce regarding Choice, which continues as a popular selection tool; likewise, Jean Loup and Helen Lloyd Snoke present a follow-up survey regarding tools selectors in philosophy and political science use to supplement approval plan purchases. Thomas Nisonger and Robert Schnare discuss, respectively, the rather obscure vagaries of the Library of Congress Surplus Book program and the vicissitudes facing acquisitions in the federal library arena.

AUTOMATION

Sharon McKay reviews emerging standards for intersystem communication, while Carol Pitts Hawks gives direction regarding continuing needs vis-a-vis serials control (including acquisitions and accounting systems). Charles Wittenberg discusses the impact automation has had on relations between libraries and vendors. On a more local level, Jessie Nicol compares features of two different serials check-in systems and Gene Rollins discusses workflow changes resulting from a direct bibliographic utility-to-local system link, while Rebecca House Stankowski and Melanie Sze address the needs of small libraries. William Jawis describes the preorder process in manual, intermediary, and fully online environments.

EDUCATION AND EVALUATION

Education for acquisitions once again generated insightful articles, with uniformly fine contributions by Joyce Ogburn (B), Schmidt (A), Donna Cohen, Deanna Marcum, and William Fisher. Prominent, too, were articles concerning evaluation—of acquisitions services, professional staff, vendor performance, collections, etc.

Knowing that they are on the cusp of major change, acquisitions librarians are paying serious attention to evaluating their operations, their vendors, and their individual performance. Many of these articles appeared in "Evaluating Acquisitions and Collection Management," the sixth issue of The Acquisitions Librarian, edited by Pam Cenzer and Tia Gozi. Carol Fleishauer and Marilyn McSweeney's article on evaluating acquisitions service provides excellent insights into the criteria applied by acquisitions' various constituencies, while Chamberlain (A) notes that acquisitions' changing role will require new criteria, as well. In that regard, Donna Alsbury suggests employing for acquisitions departments criteria similar to those used for evaluating vendor performance, whereas Stephen Bosch and Chris Sugnet emphasize recognizing and validating acquisitions' service ethic.

Miriam Palm and Vicky Reich note that evaluation usually generates positive results, even under the worst types of duress, e.g., the physical and economic earthquakes suffered by Stanford; Mae Clark, examining the preorder function, offers examples of both statistical and procedural approaches to work flow evaluation. This service aspect is further reflected in the articles on accounting work flow originating with Christopher Khoo et al., and by Joyce Ogburn and Patricia Ohl Rice. Henry Yaple looks at evaluation of acquisitions as a means of relating to collection management. E. Anne Edwards suggests that the performance of acquisitions and collection management librarians should be examined from the point of view of their responsibilities and duties, whereas Anthony Angiletta calls into question the whole notion of evaluating professionals, suggesting consultation as a more appropriate activity. Even preservation gets a nod, thanks to Martha Hanson.

INTERNATIONAL VIEW

Vendors Knut Dorn, Don Satisky, and John Cox offer perspectives (German, British, and North American) on the impact European economic integration is likely to have on the global publishing market, while Eva Skelly and Jonathan Waring attempt some crystal gazing in connection with Eastern Europe and the Soviet Union. Chapman (B) suggests our British librarian counterparts have an even tougher time with foreign acquisitions than Americans do; Betsey Kruger reports on her survey of U.S and U.K. imprints, providing compelling evidence that North

VENDOR RELATIONS
Judy Webster and Katina Strauch reprise the history of library-vendor relations. Richard Jasper considers expectations acquisitions librarians and firm order vendors have regarding each other. Brownson (A) presents a model for vendor performance evaluation, while Price emphasizes the need for communication and articulation of library needs. Barker, Dan Tonkery, and Chris Flansburg do just that in discussing a menu-style options approach to vendor services; Tonkery and Flansburg provide vendor reaction, although they are not so sure “ unbundling” isn't already happening. John Secor describes the role discounts play in the interaction of publishers, vendors, and libraries. Regarding services, Lauren Lee suggests vendors may be employed successfully to supplement in-house collection management activity; Forrest Link shows how vendors look for new services to market in this area. Bill Hannay, an attorney and habituée of the Charleston conference, explores the legal ramifications of relationships among publishers, vendors, and librarians (publishers were largely absent from the acquisitions literature for 1991). Twyla Racz and Trudie Root address questions related to vendor selection, while Sze and Ira Naznitsky list the benefits small corporate libraries achieve in converting their serial subscriptions from vendors to direct purchase.

CONFERENCE REPORTS
The number of meetings acquisitions librarians are likely to find appealing, engaging, or just plain necessary continues to expand, with the Feather River Institute joining established venues like the Charleston and Oklahoma conferences. Moreover, as acquisitions and serials functions move closer together, the NASIG conferences, for which both the 1990 and 1991 proceedings appeared this past year, continue to address relevant topics. Regional conferences on special topics also have proved popular. Herewith are summaries of offerings not previously described.

FEATHER RIVER INSTITUTE
Joe Barker (A) provides an overview of the first institute, whose theme was “Acquisitions in the West,” while Bob Schatz, the keynote speaker, takes a shot at “What does this topic really mean?”; the results, for Schatz at any rate, are inconclusive. More telling, perhaps, are the stories, on the one hand, of tremendous growth offered by Marion Reid (A), Marcia Anderson, and Marilyn Myers and, on the other, the downside considerations of the boom-or-bust cycle Alldredge enumerates. Reid (B) recapitulates the California State University, San Marcos, story for a Charleston audience as well.

NASIG
After a while one- and two-page workshop reports begin to blend together, but still they provide some useful points of departure for addressing timely issues. Included within the two proceedings were reports on automation (Kathleen Meneely [B], Laurie Sutherland, and Marla Edelman), automation as it relates to collection development (Christie Degener and Marjorie Waite), EDI standards (Barker [B] and Cynthia Hepfer), claiming (Louise Diodato), continuations (Judith Shelton), decentralization (William Sozansky), replacements (Lawrence Keating II), and vendors (Meneely [A] and Joyce McDonough).

OUT-OF-PRINT AND ANTIQUARIAN ACQUISITIONS
Reports from the Alabama Association of College & Research Libraries conference on out-of-print and antiquarian acquisitions, “If It’s Not in Books in Print . . . ,” appeared in Library Acquisitions: Practice & Theory, with Judi Fouts providing an
A PROMISING FUTURE

The best thing to happen to the literature of acquisitions in 1991 was the inauguration of Acqnet, the electronic newsletter for acquisitions, edited by Christian Boissonnas of Cornell. Starting out with only twenty-five subscribers, Acqnet has grown to more than 300 subscribers in the United States and several foreign countries. In the process, it has already had a significant impact on acquisitions librarianship. Volume 1 of Acqnet, which covers the period December 10, 1990, to January 13, 1992, resulted in 140 separate issues, some no more than one or two items each, most consisting of eight to ten postings from librarians (mostly acquisitions and collection management), vendors, and a few publishers from around the world. The comprehensive first-volume index runs to eight printed pages, containing approximately 800 references to more than 250 individual and related topics. With subscribers receiving multiple Acqnet compilations each week, acquisitions librarians are beginning to "find" each other in a new way. Boissonnas (A, C) recounts Acqnet's origins and makes predictions regarding its future.

Acqnet's success partly derives from the example of its predecessor on the serials side of the blanket, The Newsletter on Serials Pricing Issues (NSPI). The latter, having begun in early 1989 under auspices of the Association for Library Collections & Technical Services (ALCTS), went independent in 1991 under the leadership of founding editor Marcia Tuttle. NSPI has continued in the role it originally assumed, namely that of a conduit of information regarding serials and the context in which they are evolving. A typical issue will contain a variety of entries, including letters between key players in the scholarly communication chain, updates on legislation, standards and other pending topics, preliminary research results, and provocative opinion pieces. Heretofore, NSPI issues, approximately 200-300 lines each, have generally appeared every other week; recently, though, Tuttle has indicated that shorter and more frequent issues will be the rule in the future. NSPI's separation has allowed ALCTS to develop a new electronic newsletter, ALCTS Network News or AN2; like its predecessor, the new ALCTS electronic publication is primarily a current awareness tool, although its entries tend toward announcements of meetings, seminars, and bureaucratic housekeeping details.

Although not an electronic publication, Against the Grain, the newsletter of the Charleston conference issued five times per year, solidified its niche as the purveyor of timely, insightful, and usually informal commentary on acquisitions and the book trade during 1991, its third year of publication. Under the able editorship of Katina Strauch, Against the Grain offers a potpourri of regular columns leavened by one or two original features each issue. The columns run the gamut from standards ("The Meyers Connection") to publisher profiles to system features ("Bit by Bit"), not to mention editorials (Chuck Hamaker as "The Nemesis") and the unmissable "If Rumors Were Horses . . ."

Features have included interviews with longtime vendors (Dora Biblarz [A, B]), the multiple and often contradictory roles acquisitions librarians play (Richard Brumley), a faculty member's view on publishing and research (George Keller), and an entertaining report on how technical services administrators might be viewing acquisitions these days (Julie Nilson).

Although some individuals seem to have a hard time accepting these publications because they are not peer-reviewed journals, the fact is they play an extremely important current awareness role for acquisitions librarians and to some extent the larger community. Their advent has allowed large numbers of often isolated individuals to discuss important, emerging topics in a timely fashion. Their continued success holds great promise for the acquisitions profession.
CONCLUSION

The acquisitions literature for 1991 reflects a number of awakenings among librarians and their fellow actors in the scholarly information chain. The "crisis" in materials pricing is now seen for what it truly is, a radical restructuring of the information economy resulting from diminished governmental support for higher education and the wide-spread privatization of scholarly publishing. Given massive federal deficits, there is little optimism for improvement, even if the next general election results in a radical shift in national information policy.

Even so, acquisitions librarians have begun to focus on the promises inherent in the emerging networked information environment. Although there is both trepidation among those who fear libraries might be "disintermediated" (to borrow a term from Richard Rowe) and a good deal of skepticism in other quarters, most articles assume that major changes in library organizations will occur within the next decade and that the acquisitions function will be at the very heart of those changes.

For all the gloom and uncertainty, acquisitions librarians display a great deal of confidence—won largely through a decade of attending conferences like Charleston and now through the nearly instant exchange of professional ideas and concerns afforded by Acqnet—in their ability to grapple with, to shape, and to influence these issues.

It was a very interesting year. It promises to be a very interesting decade.

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Redefining the Library: The Year’s Work in Collection Development, 1991

William S. Monroe

The literature of collection development for 1991 is selectively reviewed. The major themes are the role of the library and its collections in the face of declining resources, on the one hand, and improved opportunities for cooperation, on the other. Must a library own the material its users need, or is it enough to provide access to the material? Other topics treated are the organization of collection development, budgets, collection assessment, and selection.

Recent years have seen discussion of declining budgets, rising prices (especially for serials) along with increased publishing output, new formats and technology, and the heightened need for cooperation. This year, all discussions have come together to form one question: access or ownership? This was reflected in the Second Conference on Acquisitions, Budgets, and Collections, held in Minneapolis in April, which had the theme “Acquisitions or Access?” (Genaway). It was also expressed to a wider audience in Dougherty’s “Point of View” essay (B) in the Chronicle of Higher Education.

Some useful collections appearing in 1991 were Collection Development in College Libraries (Hill et al.), and parts of journal issues devoted to specific topics: Mancall and Markuson on collection development in school libraries, Lee on budgets, Foutson on out-of-print books, Singerman on religious studies, and Johns on area studies. In a sobering vein, Leonhardt provides some thoughtful criticism of fads and fancies in collection development, most of which he considers “process without substance.” Sullivan’s essay on the “Year’s Work of 1990” is one of the more useful of recent years, though it is marred in that many items he cites do not appear in his bibliography.

Access or Ownership?

It has always been recognized that no library can collect everything its users need or want. This year, like never before, this realization has hit even the largest research libraries. Declining budgets (at least in terms of real dollars), rising prices, and increasing volume of publication are affecting large research libraries even more than the smaller academic and public libraries.

There are generally two responses to the crisis in acquisitions: One is to advocate

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better service, and the other is to foster better cooperation among libraries. Most writers, of course, would call for both, the difference lying in which one they choose to emphasize. The idea that improved service can compensate for the decline in collections is the point of Dougherty’s (B) article in the Chronicle. Unfortunately, he treats the issue as if it were in a vacuum. Characteristic is his statement that we are “building up the size of library collections without finding ways to make them more accessible.”1 Yet it is obvious to anyone in libraries that much effort has gone toward cooperation among libraries and improved service in recent years, in the form of online catalogs, CD-ROM, national databases, interlibrary loan (ILL) subsystems, etc. Important responses to Dougherty’s piece were published in a later issue of the Chronicle.2

The access proponents would place more emphasis on service, usually aided by technology, and on demand-driven collections. Dougherty, in another paper (A), says, “Researchers will attach greater significance to success achieved in locating and obtaining information and less importance to where the information was obtained.”3 Shaugnessy deplores the duplication of research collections, especially in our age of what he calls “interconnectivity,” and calls for a new library prototype, combining the best features of the supply-oriented and demand-driven organization models. Particularly useful is his distinction among three types of access: legal, bibliographic, and physical. Roberts advocates diversion of funds from collection building to providing service. Biblarz, while not necessarily taking the same position, points out that savings in acquisitions will be spent elsewhere (ILL, postage, telecommunications).

The choice between access and ownership would not be such a large issue without budget constraints. Gardner paints a bleak picture of the prospects for research libraries and describes some projects that the Association of Research Libraries is developing to meet the challenge. Central to his vision is the need to ensure a strong national collection. Some would see continued heavy collecting by individual libraries as the only real way to maintain the strength and diversity we have today. Strauch reveals the deficiencies of the demand-driven model and argues that concentration on access will cause libraries to lose sight of their mission, which is surely not the same mission that Dougherty or Bucknall would give libraries. T. John Metz points out, “The bottom line is that access will be increasingly dependent on ownership for at least the next several years, and, that the ability to borrow may depend on the ability to reciprocate.”4 Mason, in an even-handed assessment, claims that we have, and must have, both acquisitions and access. We are buying more and cooperating more, says she. Speaking about a large public library, she points out the difficulty of predicting what materials users will want: “We find that approximately 1,000 items a month are being used that have not been used by anyone in the preceding 20 years.”5

As expectations of individual collections diminish, libraries must compensate through the use of electronic services (Getz) and increased cooperation. Cohenour and Rutstein lay down some useful guidelines for establishing effective cooperation in a regional consortium. Two articles consider how a smaller library can gain access to a larger collection. Marsh reports on a project that resorted to commercial suppliers and provided items without charge to users. Dusenbury and Post describe an alternative, that of subsidizing the interlibrary loan services at a larger library in return for rapid delivery. Allman and Prejmar report on a study of user responses to items in the online catalog that are on order or under consideration. They found that users were not very interested in locating material in the catalog that was not available the same day. This might simply reflect notions of what the catalog signifies, but it also has implications for the access-or-ownership issue.

**Organization, Policy, and Planning**

The book edited by Hill, Hannaford, and Epp, *Collection Development in College Libraries*, justifies itself with the notion
that college and university libraries are fundamentally different in mission, and therefore in collecting objectives. For Worley, the main difference is size, but along with this is the difference in mission: teaching versus research. Casserly stresses that college library collections are based on the curriculum, while those in universities must support research needs of faculty and graduate students. Davis, playing devil's advocate, disputes the major thesis, maintaining that the only real difference is the size of the budget. Collection development in any academic library is chiefly curriculum driven; the size of the budget determines whether and how far we can surpass simple curriculum support. Davis is in a good position to see the similarities, coming from a college library that is much larger than most.

Most of the papers in this volume seem to support Davis' view, although not explicitly. Bridgman, for example, gives very useful advice for handling unanticipated demands on library collections, but this problem is not unique to college libraries. In fact, the sheer size of such new demands and the assumption that the library already has the needed resources, can strain research libraries even more.

Three articles dealt with the organization of collection development within the library. Kanazawa attempts to fit libraries, and collection development in particular, into the mold of one organizational theory and concludes that libraries with fifty or more employees should have a separate collection development division. Creeth disagrees and calls for a model "that integrates rather than segments work and the staff." She favors a team approach along subject lines. Robnett goes further, in calling for a reevaluation of the roles of selectors and acquisitions staff. He is very persuasive, but we await the results of the similar reorganization at Yale, which Boissonnas describes in the guise of fiction. Boissonnas cautions against such an approach.

Although most collection development librarians might never have the experiences reported by Myers, Reid (A, B), and Werking (B), of building new collections or doubling old ones, their articles are useful in their emphasis on planning and policy. Alldredge also stresses the importance of written policies. It must say something about librarianship that so many libraries still do not have written policies. Bostic gives a survey of gift policy, while Buis provides a model. Nolan stresses the importance of written policies for reference collections. More thought must be given to what goes into a reference collection, and the collection must be regularly reviewed, weeding out works as needed.

Rogers makes a useful distinction between normal and historic backlogs and provides a model for handling the latter. Hannaford calls for the application of ethics to collection development, which he claims is now carried out by expediency. He is not very clear, however, about just what ethical collection development would entail. Segesta and Hyslop report on a survey that shows a surprising degree of consistency in the way serials are arranged in libraries of different sizes.

**Budgets and Finance**

While it might generally be thought that libraries have less money to buy materials, Werking (A) finds the opposite is true, at least from 1966 through 1987. He argues that materials and automation budgets have increased at the expense of salaries and that materials budgets in both college and research libraries have outpaced inflation. Getchell uses this fact to propose that non-materials items (e.g., microcomputer workstations, online searching, etc.) be funded from the materials budget, because that is generally the last line to be cut or passed over for increase.

The fourth volume of ALA's Collection Management and Development Guides, edited by Shreeves, concerns budget allocation. This is a complete reworking of section four of the 1979 Guidelines for Collection Development. A major change is the equal attention given to various allocation methods (historical, zero-based, rankings, percentages), while the original discussed only formulas.

Budd (A) presents a helpful historical review of allocation formulas, which seem
to have fallen into disfavor. Freeman provides a good critical assessment of their use in college libraries, while Brownson attempts to find a way to manage materials budgets without using allocation formulas. He suggests quantifying actual selector behavior rather than applying a formula based on need (or demand). Houbeck also warns against allocating materials budgets according to simple perceived demand, especially in research collections, which "exist to serve not only the mass but also, and perhaps even primarily, the margins."

The budgetary woes of libraries received less attention this year than in other years, although I have not looked at the great mass of literature on serials. This might reflect a trend toward less complaint and more action. Martin and Hamaker point the way toward libraries, and the academy in general, taking more control over the market.

**Selection**

A great deal of attention was given this year to the process of selection: Who selects, what criteria do they apply, and what tools do they use?

Who does selection? Over the years, this responsibility has fallen more and more to librarians, and that trend continues, even into smaller libraries where faculty still do most selection. Another trend is for selection to be assigned to librarians as only a part of their responsibilities, along with reference, cataloging, and other traditional roles. This trend is moving from the smaller libraries to even some of the larger research libraries. Hardesty gives a useful survey of faculty culture in academia and argues that librarians should select materials, but with appropriate attention to faculty. Scudder and Scudder urge a very active faculty participation. Most writers in favor of librarian selectors argue for close contact with faculty and students to keep abreast of user needs (Drummond and others, Gonzalez-Kirby). For this reason, Dahl maintains that reference librarians are in a unique position to make good selection decisions, and Farber makes the same case for those involved in bibliographic instruction.

Dahl's point is well taken, but I question her implication that material not sought at the reference desk is not used and should not be bought, as well as the notion that the library should collect more of whatever is available in areas of heavy demand. For areas of heavy undergraduate interest, it would be better to select carefully and duplicate the better materials than simply to buy more of what is out there. This is at least partly what Hannaford would see as ethical collection development.

Allman and Prejsnar report a study that in effect allowed users to vote for items with records entered into the online catalog as ordered or under consideration. Connell attempts to compare the effectiveness of librarian selectors with that of faculty selectors by looking at circulation of the selected materials. As with earlier studies, the results are inconclusive. But such a study actually favors the faculty selector, because it is she who requires the students to read the books she selects. The argument for librarian selectors is that they will be more likely to achieve balance in the collection, selecting those books that faculty might not be interested in now, but will want five or ten years from now. Moreover, in a system where faculty do much of the selection, and librarians fill in the gaps, the faculty might always be more likely to have selected the best and most heavily-used material; they had the first chance to select! Bucknall questions the entire notion of a balanced collection and advocates collecting according to present need.

Proponents of faculty selection usually argue that only faculty have the necessary subject expertise. Gonzalez-Kirby feels that the controversy over faculty or librarian selectors has ignored the fact that librarian selectors often have similar qualifications to those of faculty, including strong subject expertise. However, it is often the case that selectors have little subject background at all, especially when they were hired to fill another role. Williams recognizes this fact and attempts to define the minimum level of subject knowledge a selector should have, while providing methods of gaining or strengthening such knowledge short of formal
education. Hers is a most useful addition to the literature.

Always at issue in apportioning selection duties among librarians with other roles, is balancing the time for each duty. Paul Metz makes a contribution to the difficult task of quantifying the workload of bibliographers, although one may question the validity of some of his criteria, which are so dependent upon particular library policies. Still, it is an important step in the right direction.

How do selectors make their decisions, and what criteria and tools do they use? Losee attempts a theoretical approach in arguing that selection should be based on the model of an optimal collection, which is “the best collection possible, given the chosen criteria to be maximized.” He argues that selection is currently based on past practice. I wonder, though, whether practice is really so far from theory in this case. Losee proposes that an optimal collection is describable, but admits later that “it may be the case that a ‘truly optimal’ collection may, in fact, not be describable,” and that “models that can be described may be more trouble to use than they are worth.” Leonhardt might wish to apply Ockham’s razor here. Or perhaps we might call on Saint Anselm to tell us that an optimal collection that can be described is better than one that cannot. Thus, an optimal collection that cannot be described is not truly optimal.

Budd finds the third edition of Books for College Libraries inadequate as a selection tool, partly because so many titles are out of print. Johnson offers a helpful guide to resources for CD-ROM selection as well as some advice on selection criteria. Straiton and Boosinger advocate the use of a special committee to recommend CD-ROM purchases.

Warzala suggests acquiring monographic series on approval rather than on standing order, especially in the case of important series for which not every number is appropriate to your particular library. One criticism of approval plans is that they would build essentially duplicate collections in many libraries, thus putting resource sharing at risk through eliminating unique selection decisions. Loup and Snoke find that this is not the case so long as care is taken to supplement the approval plans. The authors are not optimistic about the future, however, because of budgetary constraints leading to less staff time for collection development. Dole argues that approval plans could be useful for college libraries, but Niles finds that having faculty select the books on approval did not work well. The teaching faculty were much more selective than librarians, and the library had an enormous return rate. She concludes that it is not the size of the budget that makes approval plans feasible, but rather who does the selecting. Scarborough suggests that traditional selection criteria hinder the necessary development of multicultural collections for public libraries.

**Assessment, Weeding, and Preservation**

Johnson describes the Western Library Network (WLN) Conspectus Service and its uses in other libraries. McGrath and Nuzzo argue that existing collection strength should reflect actual shelflist counts, which are more objective and comparable. I would question that assumption. As Sullivan reported in last year’s review, the Conspectus, originated by the Research Libraries Group (RLG), is slowly gaining acceptance, mostly through adoption by consortia such as WLN, New York’s METRO, and now LIBER (Ligues des Bibliothèques Européenes de Recherche). Despite its own reorganization, RLG is dedicated to supporting the Conspectus.

Siverson points out the inadequacy of simple list checking as a measure of collection strength and proposes a modification that involves ranking the importance of items in the list to be checked. Chrzanowski reports a surprisingly high use rate of serials in a chemistry library, especially contrasted with a similar survey from 1977. The most useful result of her study is a cost-per-use figure that could be used for effective cancellation of titles.

The fifth volume of the Collection Management and Development Guides has been issued from ALA (Clark). This supersedes the third section of the 1979 Guide-
lines for Collection Development, the revision of which is now complete.

Nolan stresses the importance of regularly reviewing and “weeding” reference collections. Hawthorn expresses surprise that most libraries still have no formal policy on serials cancellations or selection. Barnett provides an important warning to those entrusted with weeding collections. Weeding should be done by someone with subject expertise, and books should not be destroyed but put to good use. Brown and Spencer make this warning more concrete with their example of an unusual collection in classics at Franklin and Marshall College. They make a strong case for the importance of preservation awareness in college libraries.

Kwater gives a short overview of library preservation that could be read with profit by anyone new to collection development. Hill finds that most college libraries have no existing preservation programs, although they agree on the need for them.

Subjects
It is neither possible nor desirable in a review such as this to treat every article about selection in specific subjects or topics. As helpful as these articles may be, one can generally pull out those of interest by their titles alone. I would like, however, to mention a few that might be of more general interest, or of particular importance for collection development in general.

It is commonly recognized that books are more important to humanities scholars and journals to scientists. Both Llull and Richards warn us that we should not allow this truism to make us lose sight of the importance of monographs in the sciences, both for research and for undergraduate use. Ruffner’s article is also relevant to this issue.

It is always helpful to look at our own concerns from another perspective. Kidd, Mowat, and Chapman provide interesting, informative views of British libraries and their problems, and provide a comparison with American libraries. Yaple and Boissonnas give advice to acquisitions librarians, but it is also valuable for collection developers. Alessi, of Baker and Taylor, shows us the economics of bookselling from the point of view of the vendor. Gordon provides a useful account of what it means to order out-of-print books.

Ryan calls for a reevaluation of what our special collections should be about. The Collection Management and Development Section of the Association for Library Collections & Technical Services has been issuing a very good series of books on selection of library materials. Johns edits part one of the volume on area studies. Morris and Kazmierczak offer some advice on managing history collections, which I hope is not meant to be taken seriously. History is, indeed, a very large part of our collections, but I trust that these books are used by more than just the history departments. Religious studies is an extremely difficult area for collection development, especially for a general collection that must be selective. The collection of articles edited by Singerman will be very helpful, especially the articles by Hook and Alt, for their more general nature.

The results of Henderson and Heyser’s survey of professional literature in librarianship would be useful to any library without a library science program to support. It includes lists of titles that such a library might carry.

Conclusions
Overall, 1991 was a year of questioning just what a library should be. Should it be a collection or a service point? Most would agree that it should be both, but in what proportion? Several years ago, would-be prophets looked at the growth of national bibliographic utilities and predicted the demise of the cataloger. We will no longer need catalogers, they said, because we will simply pull the records from the database. They forgot that someone first had to put the record into the database. It took a shortage of catalogers to point out the folly of this reasoning. I fear the same shortsightedness will infect collection development. Similar prophets are now predicting that we no longer need collections; we will simply provide the service of connecting the user to another... what? Collection?

On the other hand, there is a growing
recognition that collection development is very complex and cannot be handled in simple ways. There is a healthy questioning of the utility of past research, along with a movement toward looking at old issues in new ways (Leonhardt, Brownson). Brownson’s statement that “after two decades of research on subject allocation of library budgets we know almost nothing” may bring to mind Mark Twain’s brand of cynicism, yet he goes on to make a serious contribution. At the same time, the completion of the Collection Management and Development Guides (Shreeves, Clark) adds some degree of standardization to the existing literature, and we hope it will obviate the need for more rehashing of old questions.

Ryan’s suggestions for special collections could light the way for collection development in general. Yes, we still need collections, but we must be more mindful of what we are collecting and how it fits into the vast puzzle of the national collection. Much more attention will be paid to the process of selection, along with continued efforts toward cooperation and the harnessing of technology.

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10. Ibid., p.28.


12. Librarians should read a more recent piece by these authors: Leslie R. Morris, Carol M. Kazmierczak, and David Schoen, “A Faculty Bill of Rights for Library Services,” Perspectives: American Historical Association Newsletter 30, no.3:1, 6-7 (Mar. 1992).

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The Narrow, Rugged, Uninteresting Path Finally Becomes Interesting: A Review of Work in Descriptive Cataloging in 1991 with Trail Marks for Further Research

Michael Carpenter

Although recent discussions of descriptive cataloging reveal evidence of discontent with current procedures, many of the participants working in 1991 were not yet ready to provide either conceptual or empirical research to support either their diagnoses for the discontent or their suggestions for change. The lack of a consensus on the objectives for library catalogs is clearly displayed in at least one recent debate. Other failures to resolve, or even to investigate, conceptual issues are revealed in debates on the nature of what catalogers catalog, and the consequences of simplifying cataloging practices. The likelihood that discussions on the various levels of standards—such as background documents for cataloging codes, rule interpretations, and ancillary codes, which now take place in the international arena—will now be confined to the common denominator approach is explored. Authority work, main entry, transliteration, the formation of name headings, and automated cataloging are best seen as mechanisms for cataloging. In turning to issues such as these, new directions for research that might help the profession focus on the tasks a catalog is supposed to perform are suggested. With reference to practical procedures related to descriptive cataloging, displays in online catalogs, cooperative cataloging, current activities in retrospective cataloging and management of catalogers, and the cataloging process are discussed. A new agenda for action research is suggested, as well as research into means for unifying old catalogs of large libraries with the developing international bibliographic database. Finally, recent publications on the history of cataloging are reviewed, and ways in which such research might be aimed for the practical benefit of the profession are discussed.

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Jay Lambrecht characterizes the 1990 literature on descriptive cataloging as complacent and settled,\(^1\) while Carlen Rusch-off in her review of the 1989 literature notes a large number of items relating to the conceptual foundations of cataloging, clearly a reaction to the 1989 publication of the papers of the 1987 Conference on the Conceptual Foundations of Descriptive Cataloging.\(^2\) In her review of the 1988 literature, Janet Swan Hill notes the large number of papers "concerned with the underlying theories and assumptions of catalogs and cataloging rules" as well as of papers containing proposals to extend the principles of cataloging to "materials previously treated outside the mainstream of bibliographic practices."\(^3\) A year earlier, when reporting on the literature for 1987, Hill states, "Even rarer than an article on description is reportage of actual research on some descriptive topic," except in times of cataloging code revision, a statement applicable to the 1987 literature.\(^4\) Finally, in her review of the 1986 literature Hill sees the literature "emerging from a period of reaction and assimilation" and finally seeing the impact of developments in international bibliographic control, cooperative cataloging, cooperative authority work, and the difficulty in finding new catalogers.\(^5\)

With a review of the literature on descriptive cataloging for 1991, the time has come to reexamine the past and suggest new directions for research in the field. Unlike the situation in previous years, communication among catalogers now takes the route of electronic bulletin boards in addition to the literature and committee work for professional associations. An examination of the three reveals no coordination. Perhaps very few in the community of catalogers listen to one another. Although Hill identifies an impetus to discussions of cataloging—the revision of rules—in her review of the 1988 literature, the virtual rewriting of several cataloging rules by the Library of Congress (LC), coupled with far-reaching LC cataloging policy announcements, should have sparked a renewed interest in research matters. Instead, very little discussion took place outside of the committee and bulletin board environment. Yet some of the issues dealt with in committee discussions in 1991, such as that of cataloging multiple versions of the same bibliographic entity, clearly cry out for empirical research and conceptual investigation. The separate calls to action on the parts of Thomas Mann and Elaine Svenonius offer reason to hope for further investigation.

**OBJECTIVES AND FOUNDATIONS OF DESCRIPTIVE CATALOGING**

The objectives of a catalog, and, by implication, the objectives of a cataloging code, comprise the most important part of the literature on descriptive cataloging, for without such objectives, the profession cannot do more than discuss techniques aimlessly. Mann, a reference librarian at LC, points out the need for adhering to cataloging objectives in his important pamphlet, unfortunately not widely distributed. He discusses the deleterious effect minimal-level cataloging will have on the achievement of those objectives.

In her 1990 speech to the International Federation of Library Associations and Institutions (IFLA), nominally published in 1992, but appearing in 1991, Svenonius discusses the various uses for bibliographic records. Bibliographic entities, in Svenonius' model, consist of physical items, such as copies of books; sets of those items, such as editions and works; and finally relationships among them. Tradition has aggregated individual items into various "useful" classes, such as, for book-like materials, impressions, editions, texts, works. Svenonius uses the term superwork to denote the set of all manifestations both of an original work and all works derived from it. Clearly, librarians need both definitional work on the nature of bibliographic entities, especially on the nature of edition, as well as an accounting of the utility of the various sorts of aggregations of physical items used as the basis for description in bibliographic records. Furthermore, librarians need an accounting of the attributes of records required for organizing catalogs and thereby the bibliographic universe.

In 1988, Maurice Line published a
paper claiming that currency in cataloging constituted the first need for cataloging, followed only by quality, subject access, economy, and access to the records by many libraries. Short records, according to Line, suffice for all needed purposes in what he calls “all-through” cataloging. Precision of detail in records and total accuracy serve no real purpose, especially when aiming for them prevents subject access. The earlier the creation of the records, the better the all-through system would work. The publisher has the best information for creation of early notice. A central body would encourage publishers to generate records and make them available to booksellers and libraries. Correspondence in the letters columns of the London Times during 1899 provides impressive testimony as to public interest in the British Library’s implementation of the part of Line’s scheme that entailed simplified cataloging. Unlike what happened in the cataloging controversy of the 1840s, the British government did not convene a royal commission to investigate the principles of cataloging in the late 1890s.

In contrast to Line’s claims, Svenonius suggests that the area in which publishers can least help libraries is the organizing function of bibliographic information. Authority work, on the other hand, the most costly part of cataloging work, offers the place in which libraries might achieve some savings with the help of publishers, although publishers, libraries, and booksellers must first devise suitable cooperative arrangements. In a defense of the Line argument, Lorcan Dempsey criticizes Svenonius’ paper on the grounds that Svenonius assumes the American environment characterized by “high quality” LC records, as well as the high cost of providing authority work. In the end, Dempsey suggests, “What may happen is that libraries use a number of databases, some publishers-derived, to satisfy their requirements.”

While the papers printed in the proceedings of the 1990 Seminar on Bibliographic Records convey a sense of dissatisfaction about the present nature of cataloging, another congress that took place in 1991 adds a second manifestation of discontent. Arlene Taylor reports on the congress held at St. John’s University on February 18, titled, “Cataloging Heresy: Challenging the Standard Bibliographic Product.” Sanford Berman opposed the prescribed punctuation derived from the International Standard Bibliographic Description (ISBD), Glenn Patton advocated the virtues of the master-record approach characteristic of the OCLC Online Computer Library Center’s system, Norman Anderson claimed that descriptive cataloging is not as neutral as many would believe, and Sheila Intner suggested the development of better standards as a way of dealing with difficulties in Library of Congress copy. Taylor noted the claim that the speakers pointed out flaws in applying existing standards rather than difficulties in the standards themselves.

As a third manifestation of unhappiness with current means of cataloging, Dorothy Gregor and Carol Mandel suggest several modifications of existing procedures to alleviate the high cost of cataloging. With respect to descriptive cataloging, they suggest both using the LC Name Authority File to a far greater extent than catalogers normally do, and abandoning those LC rule interpretations that add little to the content of the code. They also suggest that individual library catalogs are really subsets of a virtual international database; they show not what a library has, but “what the library can obtain for the user.”

Although Gregor and Mandel deal with present-day library systems, Roland Bertrand, looking to the future, claims, “There has never been an incontestable bibliographic verity.” Even today, Bertrand claims, the catalog presents a historical opportunity for liberation from intermediaries, the notorious professionals of the library profession, who have often acted as a screen between the book and the reader. Tomorrow the nature of catalogs, or whatever they will be called, will change to accommodate new ways of working in which the catalog does not substitute for the data found in the documents in the library, but instead allows the user to “drift” (dériver) through the data in a library.

In contrast to visions of the future, John Boll suggests that a new cataloging code should comprise not only suitable rules for
use in online catalogs, but also provisions for a subject cataloging code. Although the profession should conduct a rigorous analysis of the objectives and functions of a catalog and the rules used in its composition, the new code is still needed just to move from card-based records to those found online and in printed book form. Not only should the content of records form central considerations for the new code, but so too should the displays possible in online catalogs.

Henry L. Snyder, the project director for a machine-readable catalog of eighteenth-century books, reiterates well-known objectives for library catalogs, including the collocation of works of an author and the editions of a work, both accomplished through thesauri to link variants in names of authors, names of works, and even names of places. He suggests that full titles are usable in catalogs only so that editions of works can be identified. Discussion at the end of Snyder's conference paper revealed a desire for records with "less structure with more content."

If relationships among catalog records are a key problem in bibliographic organization, as Svenonius suggests, and Snyder would appear to agree, then the 1991 publication of the first two parts of Barbara Tillett's 1987 dissertation, "Bibliographic Relationships," is long overdue.

Understanding what we catalog is central to the objectives of a catalog code. One way of collocating material is to catalog it collectively. In the summer 1991 issue of Cataloging Service Bulletin, LC provided the first statement since 1947 of its policies on collective cataloging. Another way of describing material is to break out component parts, as exemplified in Sheila Inn's suggestion that single volumes or issues of serials be cataloged instead of runs.

With regard to principles of cataloging, it seems clear that several writers are discontent. The cataloging community needs to advance the examination called for by Boll and partially inaugurated in the 1987 Conference on the Conceptual Foundations of Descriptive Cataloging. An example of what happens when conceptual issues are not explored can be found in the multiple-versions controversy on which Paul Weiss provides two brief reports. In large part because of lack of clarity as to the meaning of concepts such as edition and version, as well as a lack of knowledge as to the implications of changing the meaning of the terms, both the Committee on Cataloging: Description and Access (CC:DA) and the interdivisional Committee on Machine-Readable Bibliographic Information (MARBI) of the American Library Association disagreed as to how to approach the possibility of using single bibliographic records to carry information about several versions of a bibliographic item.

Although it is not clear as to what constitutes multiple versions of bibliographic entities, it is fairly clear what constitutes duplicate or multiple records for the same object. On the other hand, procedures for purging databases of duplicate records for the same bibliographic entity are not well worked out. The meaning of duplicate must be operationalized so as to permit a machine to locate duplicate records. Unlike previous years, only one report of ongoing work on duplicates appeared. That of Edward O'Neill, who works for OCLC, a database utility for which the duplicate-record problem is an ongoing fact of life.

**CATALOGING SIMPLIFICATION**

Conceptual issues are not the only force driving changes in cataloging rules and procedures. The pressure of substantial rearrangements has driven LC to produce what it calls *minimal-level cataloging (MLC)* records for selected materials. In essence, MLC records provide access to only one name in addition to the title, no subject access, aside from uncontrolled translations of key parts of foreign-language titles, and level-one description as defined in the *Anglo-American Cataloguing Rules*, second edition (AACR2). Although not identical with former methods, the use of MLC records continues an LC tradition of so-called *Priority 4* records from the 1940s and 1950s, "limited cataloging" from the 1950s, and form-card serial entries from the 1960s. All are characterized by an effort to provide some access, even though it
is less than full, to certain classes of material. Within the context of cataloging in a national-level database, MLC records can sometimes conflict with full records for the same materials produced by other libraries. Also, use of MLC records might not satisfy the needs of libraries otherwise relying on the existence of LC copy. Mary Anne Fox and Barbara G. Preece report on their library's experience with upgrading MLC monographic records, while Douglas Anderson reports on an attempt at generating references by machine from minimal-level authority records.

If MLC records are regarded as one end of a continuum of fullness of bibliographic records, and full records as another, efforts at finding intermediate positions continue. Usually called cataloging simplification, these efforts are aimed at reducing the amount of detail and/or procedures surrounding the cataloging process. That the amount of material regulating the descriptive cataloging process has ballooned in the past twenty-five years cannot be doubted. In 1967, the United States had a single, medium-sized volume of rules, the first edition of the Anglo-American Cataloging Rules, North American Text, a thin, single-volume MARC (machine-readable cataloging) format for books, and an absence of secondary codes for cataloging and LC rule interpretations. The material probably took up two inches on a shelf and could be carried in one hand. Today, the code has almost 75 percent more pages; the rule interpretations are in two volumes; the MARC formats, depending on the version used, are published in at least four looseleaf volumes, not counting miscellaneous code books; and there are at least half a dozen ancillary codes for special categories of material. The material takes up at least eighteen inches on the shelf. One may be assured that the complexity of library materials did not increase at the same rate the manual pages did. In the shadow of such regulatory elephantiasis, cataloging simplification seems attractive.

In contrast to proposals; LC's Collections Services took action, it announced changes in cataloging priorities, provided the first description of its policies on collective cataloging since 1946, and rewrote the AACR2 rules on main entry under the heading for a conference by limiting it to those conferences named on the chief source of information, thereby reducing the number of authority records created for conference names. Karen Horny examines possibilities for simplification. Jennifer Younger advocates simplification, suggesting that the profession needs leadership to permit it. Anne M. Hasund Langballe describes simplified procedures in Scandinavia. Øivind Berg suggests that the complex nature of the MARC formats and the requirements of the various ISBDs, and AACR2 do not promote the goal of current, accessible bibliographic records. In his report on technical services meetings in 1990, Barry B. Baker reports on an ALA Heads of Cataloging Discussion Group meeting concerned with cataloging simplification.

It is paradoxical that at the same time that less and less descriptive detail is being provided in cataloging records, there is an increasing demand for inclusion of table of contents information in library catalogs. One can only speculate that increased demand for off-site borrowing makes it necessary to describe the contents of a book in a way that its character can be determined. Stuart Weibel reports on a pilot OCLC study of the topic.

One attempt at cataloging simplification alluded to in the Line-Svenonius debate is all-through cataloging, in which publishers initiate the provision of cataloging records. Graham Gordon provides details on the publishers' roles in the scheme, while Svante Hallgren discusses the bookseller's role and needs. Glenn Patton of OCLC provides an interesting discussion of the commercial sector. Although the all-through scheme is fairly well detailed in its construction, its ability to carry out the objectives of a catalog is not clear. Although the participants in the Line-Svenonius debate cite a few studies about requirements for cataloging data, the information provided does not address the question of what a catalog is supposed to do. Again, more research on the fundamental nature of library catalogs, both conceptual and empirical, would be welcome. That it must be conceptual is clear.
because of the normative nature of cataloging objectives.

STANDARDS

PRIMARY

Three levels of cataloging standards are employed by descriptive catalogers. The first level consists of the standards themselves, the second of interpretation of those standards, and the third of auxiliary or ancillary standards of slightly lower status than the standards of the first level. The first level of standards contains guiding standards, such as the ISBDs, and practical standards, such as cataloging codes such as AACR2 or the various editions of the Regehn für die alphabetische Katalogierung (RAK) derived from the guiding standards. Only by accident are guiding standards used for actual cataloging; some countries have adopted the ISBDs because of financial inability to develop their own codes.

As part of a program of revision of the ISBDs, reported on in an article on a medium-term assessment of the Division of Bibliographic Control of the IFLA, a new edition of ISBD(A), the ISBD for antiquarian monographs, appeared in 1991. The IFLA issued Anthony Curwen's manual on the use of the ISBDs, as well as a new MARC standard for authorities, UNIMARC/Authorities.

A formative influence in the future development of international standards is likely to be two of the resolutions likely to be passed in the 1990 Seminar on Bibliographic Records, to the effect that IFLA's Universal Bibliographic Control and International MARC Programme (UBCIM) would "work towards the co-ordination of international name authority control as a high priority" and commission a study "to define the functional requirements for bibliographic records in relation to the variety of user needs and the variety of media." These resolutions would have a formative influence in the future development of international standards. In addition to the seminar papers described earlier, Alix Chevallier and Suzanne Santiago contributed papers that will advance the second of these resolutions.

Although it might seem from the heavy influence of AACR2 and kindred codes based on the ISBDs that the cataloging world is working its way toward descriptive uniformity, if not internationally acceptable name authority work, Jay Lambrrecht found that several national bibliographic agencies do not follow the ISBDs; his survey attempted to identify reasons that they do not. Evidence of local differences from the ISBDs and other standards promoted by IFLA can be found in articles by Barbara Karamac, on conditions in Poland; N.B. Igumnova, on conditions in the USSR; Yan Yi-Qiao and He Yun, on developments in descriptive cataloging in China; Sun Gengxin and Li Lin, on developments in the Chinese MARC formats; and Félix de Moya and Pedro Hipola's discussion of the new IBER-MARC format. Even the Deutsche Bibliothek chose to implement UNIMARC with variations, according to Christine Boßmeyer and Hans Liegman in their report. In spite of these minor, local variations, it still seems that the guiding force behind current practices in descriptive cataloging has moved from national associations to international organizations. Perhaps all effective future discussions on the nature of cataloging will take place only in the international arena. Because international efforts are often attempts at compromise, rather than structured investigations of reasons, the research agenda for descriptive cataloging may be bleak.

SECONDARY

One of the problems with a code such as AACR2 is that not only does it provide options for various rules, but it also contains provisions that are vague. This problem means that the code invites interpretation and the laying down of policies for implementation. Because much of the cataloging in the English-speaking world originates from central sources, such as LC and the British Library, catalogers in smaller libraries are likely to examine the rule interpretations of the central libraries before using the code themselves; this tendency seems to result from a desire to make one's contributions to a national bibliographic database uniform in style with those of the
central library. Although the ongoing set of rule interpretations by LC is perhaps best known, the National Library of Canada, the Australian National Library, and the British Library also issue rule interpretations. Lynn Howarth has compiled the rule interpretations from these libraries in a two-volume looseleaf set.

Although the vast majority of LC rule interpretations are issued as such by LC, LC issues other policy statements affecting cataloging. Because LC's Name Authority File, which contains headings determined by AACR2 provisions, is maintained separately from the LC Subject Authority File—which contains, among other things, headings for topics not generally subject to AACR2 provisions—it is occasionally not clear which authority file contains the heading for a particular type of entity. The list of entities varies through time, and LC issued a revision in 1991. It is not yet clear how the proposed reorganization of LC cataloging operations will affect the two authority files.

Finally, there are areas in which the cataloging codes may well be in error or at least insufficient. Jeong Pil-Mo and Oh Dong-Geun discuss one such area for East Asian materials, kwan-ching. Although kwan-ching look like head of title information, they do not clearly fit into any category of title page information as defined in AACR2 or the ISBDs. That such a phenomenon could be missed in the compilation of cataloging codes is a salutary lesson in the need for greater research into bibliographic phenomena or for less restrictive classifications of title page elements in cataloging codes.

TERTIARY

The genesis of the ISBDs and MARC formats as collections of procedures for specific types of material, rather than a unitary set of provisions for all sorts of materials, has led to the growth of specialized cataloging codes for those categories of materials for which groups of librarians have deemed only insufficient provisions have been made in AACR2. Three such codes, for films, rare books, and maps, appeared in 1991. Additionally, articles devoted to the descriptive cataloging of other types of material appeared in 1991.

Under the aegis of the Fédération Internationale des Archives du Film (FIAF), Harriet W. Harrison of LC prepared a substantial code for cataloging films. Although the FIAF code does not replace the current LC guide for archival moving images as far as cataloging at LC is concerned, it has been adopted by several American film libraries, as well as several in Latin America, especially Brazil. The reasons for developing two different codes for film collections contributing to North American bibliographic databases are not clear.

As a result of the appearance of the new edition of ISBD(A), LC issued a new edition, carrying a new title, of its guide for cataloging rare books. Because of the lack of standardized title pages prior to the early part of the nineteenth century, many catalogers have found it advisable to follow a separate set of rules, even though one is to be found in the text of AACR2. Additionally, LC issued a statement of policy on copy-specific information for rare books.

Finally, LC issued a new code for maps in summer 1991. The manual does not supersede an earlier expansion of the AACR2 rules for cartographic materials. Instead it provides information on LC procedures.

With respect to the journal literature on the cataloging of various types of materials, the most prominent addition to the literature is probably a special issue of Rare Books & Manuscripts Librarianship devoted to problems of cataloging medieval manuscripts. Although the USMARC Archival Manuscripts Control format is supposed to be usable for all sorts of manuscripts, Thomas L. Amos believes it will not work for medieval manuscripts. Therefore, his library developed a non-MARC database for its manuscripts. Hill is well aware that the manuscripts in his library cannot be recorded in the usual North American bibliographic databases. Sara Shatford Layne suggests that the problems encountered in cataloging medieval manuscripts lie not with the format, but with the provisions of AACR2. Hope Mayo and Alexandra Mason also contribute generally positive reviews of the use of the MARC...
formats for use in recording the cataloging of medieval manuscripts. Whether Layne's views will result in the compilation of a special code for early manuscripts is not clear.

With respect to other types of materials, John S. Whyde discusses the cataloging of commercially available videocassettes of television programs, Michi S. Hoban discusses the cataloging of sound recordings, Diane Stine the cataloging of textbooks (something rarely cataloged by LC), and Mary Ann Sheblé and Gerald B. Sheblé the cataloging of computer files.

One type of material not easily captured by traditional library cataloging is gray literature, a term comprising handouts, technical reports generated outside the purview of standard federal government reporting requirements, and the like. Julie Bichteler finds that professional societies have improved the bibliographical control of gray literature, at least with respect to the geological literature.

Jim Cole suggests that a new, special rule for the entry of serials be added to the code because of the special needs of users of the serial literature. One might have thought that problems of bibliographical control over microfilms had been conquered, with the exception perhaps of dissatisfaction over the LC amendment of the AACR2 chapter dealing with microforms to conform with the facsimile rather than the edition theory of microform cataloging. The ALA's Association for Library Collections & Technical Services (ALCTS), however, held a preconference in 1990 on the bibliographic control of microfilms. Robert P. Holley provides two reports on the preconference, one of the reports having Jill Parchuk as coauthor. That cataloging control over microform materials is vital is asserted by Barbara G. James and Byron Ladd Brown II; without records for the materials, there is only limited access to these vital materials.

A final category of material in the tertiary level of standards appears in the need for selected audiences to have materials described in a fashion they can understand. A full, national-level record is confusing to children; ways to format the descriptive portion of a cataloging record for young people are discussed in the revision of Cataloging Correctly for Kids.

**Summary**

That standards on all three levels should appear to be developed without systematic analysis of the effects of the use of the standards, not only with respect to their ability to fulfill the objectives of a catalog, but also with respect to the financial impact of increasingly difficult and time-consuming procedures, can do no more than suggest that a new area for action research in cataloging would be to devise a procedure for generating the data requisite to establishing a procedure for creation of usable standards. That the literature seems devoid of both empirical data and systematic conceptual discussions in the creation of these standards may well mean that nonrational considerations are at work. Note that it is not even clear what constitutes the American cataloging code for all types of material, given the plethora of tertiary standards. In the 1920s and 1930s a similar situation existed, with a cataloging code supplemented by LC rulings on cards, and supplemental books for the cataloging of special types of material, such as periodicals, society publications, music, and maps. Rationalization of the collection of codes took a long time, but the chief impetus was the development of large arrearages. Perhaps history will repeat itself.

**Mechanisms of Cataloging**

In addition to standards, codes, and discussions of specific types of material, there are certain techniques catalogers use in cataloging. Among these techniques are authority work, provision of main entry, transliteration, formation of name headings in general, and possibly for the future, automated descriptive cataloging.

**Authority Work**

Authority work is generally considered the most costly and time-consuming part of cataloging work. For that reason many libraries do not perform adequate authority
work, leading to catalogs with inconsistent entries. Chandra G. Prabha, an OCLC research scientist, has been working on a project to measure the amount of time consumed by various aspects of authority work in order to provide data useful in making managerial tradeoffs. More research like Prabha's will help libraries measure the cost efficiency of procedures they undertake.

Tamara S. Weintraub suggests full MARC authority files are not needed, at least in cataloging at the University of California at San Diego; an abbreviated file will suffice. Helen Goldman and Carolyn Havens find that online authority work is faster than using manual files, in the context of the NOTIS installation at Auburn University. Ron Slater writes about authority control in the bilingual catalog of Laurentian University. Slater claims that linking terms in French and English is indeed possible using the MultiLIS system. In an article in a volume devoted to the ing name authority conhol problems at the international level, and specifically reports on a survey she and Marcelle Beaudiguez completed in 1989, as well as a 1991 workshop conducted in Florence in 1991 on UNIMARC and the Common Communications Format (CCF). Bourdon suggests the creation of an International Standard Authority Data Number (ISADN) for each entity comprising an authority record. She further states that the main hindrance to the international exchange of authority data is more organizational than technical. The long-range prospects of an international authority data exchange program are hard to calculate at present, but the idea bears watching.

MAIN ENTRY

Discussions of main entry often are aimed at differing concepts. The rather sparse literature from 1991 shows no exception to this observation. Snunit Shoham and Susan S. Lasinger protest the use of main entry in online catalogs and suggest that it has no function. The authors rely on a 1965 estimate by Koichi Mori that decisions on main entry take from 20 percent to 40 percent of a cataloger's time in their argument for dropping main entry; and suggest that display be a description followed by tracings for all access points as added entries, following a suggestion made in 1989 by Takawashi et al. The utility of such a display needs support.

Turning to questions of what the main entry for catalog records should be, instead of whether it should be, Ruby A. Bell-Gam finds theoretical problems with the justification for title main entry of motion pictures and suggests a new foundation. Jim Cole, in an article cited earlier, seeks to assign a new rationale for main entry for serial publications that would result in changed procedures.

If one of the classical functions of main entry has been the relating of editions of works to one another, uniform titles are the ancillary device for aiding main entry in the task. In a conceptual investigation, Sherry Vellucci suggests that uniform titles will be increasingly important in online catalogs.

In conclusion, evaluations of whether main entry indeed fulfills its classical functions of relating the works of an author and relating editions of a work cannot be made conclusively until univocal referential definitions are self-consciously followed in writings on the subject. Shoham and Lasinger make an attempt but finally settle on a definition reminiscent of the card catalog's definition. Bell-Gam and Cole, on the other hand, appear to be working with the concept of main entry heading. Perhaps it is time to invent a new vocabulary, one without the baggage of past technologies of catalog display.

Almost as a sidenote to discussions of main entry, Isole Ajiferuke's article can be read as a contribution to the debates surrounding not only main entry, as traditionally defined by notions of principal authorship, but also those surrounding the limitations of access points under conditions of simplified cataloging. Ajiferuke...
arrives at a model for estimating distribution of authorship in scientific papers, thereby providing an estimate of the maximum number of authors per paper to be included in an author index; the model does have its statistical limitations. This kind of work needs repetition in the context of library catalogs. Although there have been descriptive statistical studies of numbers of authors per title cataloged, no one has studied in a proper statistical fashion the effects of policies such as the so-called rule of three in library cataloging.

**TRANSLITERATION**

In his letter to the Earl of Ellesmere, Anthony Panizzi reflects on problems of transliteration. How should names written in one script be represented in another? Almost 130 years later, Michael Gorman reflects on the same problem and tries to solve it through treating varying transliterations of a name as variant names, all on a basis of equality as approaches to a "name package." Given such a record, it is not surprising that several studies on the topic appeared in 1991.

Tables for transliteration as approved by ALA and LC were published by LC in 1991. These tables, which include two scripts new to the collection of schemes published previously in Cataloging Service Bulletin and its predecessor, supersede all previous publications. As a tool, the book cannot be expected to form a reasoned analysis of the reasons for choosing one scheme over another.

Although substantial treatments of problems of transliteration exist—those of Wellisch and Piggott should be read by all catalogers dealing with nonroman scripts—substantial studies devoted to problems with a single language are rare. However, Farideh Tehrani provides a study of Persian, or Farsi, based on her dissertation. Given that the Arabic script is evidently a poor vehicle for writing Farsi in the first place, the profession’s insistence on giving the letters their values in Arabic rather than Farsi seems perverse. Tehrani gives impressive evidence that Iranians in the United States spell their names quite consistently in roman letters in a fashion quite different from their representation in the ALA/LC tables. If more empirical studies like Tehrani’s on transliteration from other languages were to be undertaken, progress might be made in the rationalization of systematic romanization. Of course, catalogs in other languages are in similar need of rationalization in their representation of names in scripts different from that of the catalogs. Jeong Pil-Mo and Oh Dong-Geun undertake the groundwork for such a study in their essay on the influence of pronunciation in the representation of various scripts in MARC records in East Asian countries.

The representation of descriptions in a nonroman script is a wholly different issue from that of transliterating access points. Although lack of character sets for nonroman scripts caused many machine-readable records to be fully romanized, it is now possible to represent Arabic script descriptions in records in the Research Libraries Information Network (RLIN); RLIN introduced the system at LC in August 1991. Provision of a new means of representing nonroman characters now appears to be possible through UNICODE, according to separate reports by Joan M. Aliprand and Mark Leggott.

The romanization of names used for access points must be performed so that records will file in one common sequence; otherwise there would be no possibility of a single, universal catalog. Records for works in Chinese have posed some of the greatest problems in recent years because of LC preference for a modification of the Wade-Giles system and preference on the part of the government of the People’s Republic of China for the pinyin system. Karl K. Lo and R. Bruce Miller believe they have found a way out of the difficulty of changing from one system to another through a special computer program they claim is capable of converting from Wade-Giles to pinyin and back again. If the attempt is successful, differing transliteration schemes that fully represent pronunciation should be easily convertible on the same basis. Such a capability would greatly ease authority control problems for names written in nonroman scripts.
Shuk-fong Lau and Vicky Wang provide a tutorial discussion on two kinds of problems with Chinese names and titles. Not only are transliteration problems important in rendering Chinese names and titles, there are also problems with the way Chinese names are selected. Many overseas Chinese place their surnames at the end in Western fashion, while others place them at the beginning in the Chinese fashion. When an author has names all of which are commonly used as surnames, the cataloger who has to decide which name functions as the surname has a difficult time of it. Lau and Wang describe problems familiar to readers of Panizzi's letter, such as authorial name changes through life, along with posthumous honorifics, as well as differing pronunciations based on the dialect the writer speaks.

Ali Houissa provides another tutorial discussion of Arabic personal names. Unlike the situation with Chinese names, in which there is a definite surname, Arabic names often contain no surnames. Which element should become the entry point? Houissa examines the practice found in cataloging rules, both German and English, for rendering Arabic personal names from the middle of the nineteenth century forward. Finally, Martha M. Yee and Raymond Soto describe a problem many descriptive catalogers face, the establishment of names of fictional characters. A problem stated by Yee and Soto is that although no fictional characters other than performing characters like Bugs Bunny are capable of authorship, some characters of “dubious factuality” such as spirits can be treated as authors; if they are, they can be placed in the 700, if not 100, field. The problem is that the classification of MARC fields requires format modification in the case of fictional characters.

**Names**

**Automated Cataloging**

Although the record described above would indicate that many unsolved problems exist in the objectives of cataloging as well as the mechanisms needed to accomplish those objectives, some writers try to advance the development of automated systems for descriptive cataloging. To do so they must arrive at formalized, unambiguous descriptions of cataloging processes. One way of attempting to arrive at such a description is to find the rules actually used in the cataloging process. Roy Meador III and Glenn R. Wittig determined by unspecified means which AACR2 rules were used to assign access points for a sample of books in chemistry and economics. They found that more than twice as many rules for assigning main entry were required for the chemistry sample as for the economics sample. They suggest that core sets of rules for descriptive cataloging in various subject disciplines might be devised. In her article, “The Structure of a Knowledge Base for Cataloging Rules,” Ling Hwey Jeng notes that many AACR2 rules contain varying numbers of pairs of condition and action, or subrules. For this reason, the defining unit in a knowledge base for cataloging rules must be the condition/action pair rather than the numbered rule.

With respect to description rather than access points, Jeng analyses title pages in terms of frame structures in her “Knowledge Representation of the Visual Image of a Title Page.” She finds current cataloging practice wanting in its analysis of title pages and suggests that representations of frame structures may well become the basis for an expert system for descriptive cataloging.

Although transcribing the contents of a title page for a cataloging record is fairly easy, linking the names found on the title page and in other sources of information to entries already in the catalog is far more difficult and expensive. Continuing a line of research begun several years ago, Mavis Molto and Elaine Svenonius find that automatic name recognition from title pages appears to be feasible assuming that the title pages are available in machine-readable format. Together with the writers’ findings in a 1990 paper that bibliographically significant names can be identified on a title page, there is hope for alleviating some of the labor-intensive work of cataloging. In short, Molto and Svenonius find it is now possible to match title page names with headings in authority files. Although
the success rate was only approximately 85 percent, with 89 percent precision, and the corporate name algorithm worked better for public library data than for academic library data, it appears that the possible automated addition of names to authority files will change the nature of cataloging.

In conclusion, it appears that some sort of practical automated cataloging may become feasible. More research in the area coupled with greater amounts of machine-readable authority file data shows signs of a possible early payoff. The nature of the catalog, on the other hand, needs further investigation. Automated techniques for generating cataloging information do not inform the library profession as to what tasks library catalogs should perform.

NUTS AND BOLTS OF DESCRIPTIVE CATALOGING

Defining standards for the ways in which catalogs should display their data is wholly different from deciding what data catalog records should contain. Also, standards for record content are different from means for entering the data into bibliographic databases and library catalogs. Standards for descriptive cataloging record content were discussed above; standards for record display and means of getting the data into the system are discussed below.

CATALOG DISPLAYS

At the moment, there are no sanctioned standards for the displays of catalog records. The presentation of characters on a computer screen varies from system to system, and although one can make vague generalizations about search protocols in various library catalog systems, there is still no well-recognized standard for them, either. Perhaps this lack of standards accounts for the ongoing literature on catalog user studies, suggestions for the design of better catalog interfaces, and suggestions for improved displays.

Sharon Seymour surveys three years of user studies, a total of sixteen studies in all. She found that while important questions have been raised, methodological problems, caused either by a lack of survey training or by insufficient funding, have limited the utility of the studies. N. J. Bellin presents a method for discovering the characteristics of the goals, contexts, and “behaviors of library users” so that those characteristics of online catalogs supporting the users in their tasks might be specified. Although the project results were not completely gathered at the time of the article, Bellin notes that many users desire information about tables of contents in catalog records, and with respect to public library users, readers of mysteries want to learn whether they have previously read the books. Tschera Harkness Connell analyses the differences in credibility students at one academic library placed in the library’s online catalog, as opposed to its card catalog; legend has it that users approach online catalogs less critically than card systems. Connell was unable to support the legend and found that the students “are no more likely to believe the results obtained from a computer catalog than they are the results obtained from a card catalog.” Micheline Hancock-Beaulieu describes a brief survey of users of the Okapi system developed at the City University, London, and Maria Witt describes a survey of users of the GEAC installation at the médiathèque de La Villette, Paris.

Sandra Sinno-Rony discusses the role of hypertext not only in various CD-ROM-based databases, but also in the library catalog of the future. She suggests great improvements are possible with the use of hypertext. Thomas H. Basista et al. describe a new interface using a NeXT computer system. Martha M. Yee, in a paper accepted in 1988, but published in 1991, provides a substantial survey of the literature on the design of user interfaces in online catalogs. Karl F. Stock suggests the addition of bibliographic expert systems to online catalogs. Katharina Klemperer reports on a survey sponsored in 1989 by the Technical Standards for Library Automation Committee (TESLA) of the Library and Information Technology Association (LITA), a division of ALA. The survey she reports had as its goal the determination of variations in indexing practices among online catalogs. The committee suggests the development of guidelines, though not
full-fledged standards, for the handling of special characters, diacritical marks, punctuation, and abbreviations, as well as the determination of fields and subfields included in each index. The report contains a recognition of the integral role played by the index structure in a system; the index structure “cannot be modified without redesigning the entire system.”

As library systems are able to fit on increasingly powerful small computers, systems librarians are likely to lose their key role in determining the shape of online systems, as Lee Jaffe notes. Library staff, Jaffe believes, will be able to solve the problems without systems office intervention. As an example of a small system being used to solve a public library’s online catalog problems, Kevin Kierans describes a six-branch system using the program askSam, as the basis for its catalog. On the other hand, there is still life in large, homegrown mainframe systems; Günter Gatterman edited the proceedings of a colloquium held in November 1989 on the new online catalog at the University of Düsseldorf, Germany.

Finally, Barry L. Baker edited a report of a June 1990 meeting of the LA’s Online Catalog Discussion Group on attempts to expand the contents of online catalogs, especially through in-house record enhancement. The Weibel report on adding table of contents information to catalog records, cited earlier, is pertinent to such efforts at record enhancement.

Many articles cited in the section above use the term OPAC (online public access catalog) interchangeably with online catalog. Since the PA (public access) part of the acronym is little more than promotional terminology—all users of the library using the same catalog, with the possible exception of the technical services modules—it might be advisable to drop the term OPAC and speak more precisely of online catalogs.

COOPERATION

Ever since the American Library Association started its card program in the late 1890s, a program soon supplanted by the Library of Congress, American libraries have tried to use cataloging from a central source. When that central source was unable to fulfill all library needs, cooperatively generated copy became acceptable, most notably with the advent of OCLC and other bibliographic utilities. Concomitantly with the use of cooperative cataloging, the problem of cataloging quality arrived. It was partially solved by LC’s distribution of what was perceived as high-grade copy. Starting with 1971, LC reworked its cooperative cataloging program and started accepting name authority records from libraries whose staff it had trained. Later LC would accept copy from other libraries as well as its own, provided LC personnel had trained the staff. The high costs associated with records from the new cooperative cataloging operation, the National Coordinated Cataloging Program (NCCP), led to the funding by the Council on Library Resources (CLR) of a study by Paul Kantor of Tantalus, Inc., of the reason for those high costs; CLR had been responsible for a substantial share of the funding of NCCP. The publication of the study in August 1990 has led to several policy changes, none of which was reported in the literature in 1991, with the following exceptions: Robert H. Burger published an evaluation of NCCP’s activities, and LC tentatively decided to start accepting copy through OCLC for its own collections. Because of the structure of the LC online system, all data from OCLC records must be rekeyed.

In other locales, Warwick Cathro discusses the use of the Australian National Library in the distribution of cataloging records; Ronald Michael Schmidt and Reimer Eck talk about cooperative cataloging work in North Rhine Westphalia and the Göttingen regions of Germany, respectively; and Péter Sonnevend discusses the role of the central catalogs in the Széchényi National Library in Budapest, Hungary.

Turning to less locally defined issues of cataloging cooperation, Ingrid Mifflin and Jean Williams write on the varying roles of networks and local libraries in online catalog maintenance. One must remember that records in a bibliographic utility are subject to change, even though a participating institution, by having downloaded
the record, will not be automatically aware of changes in the record. Barbara Henigman discusses authority control in the Illinois state network, ILLINET.

Jean Plaister provides a thoughtful discussion of the problems associated with the maintenance of automated union lists of serials, especially in the contexts of changing holdings and the needs of economically developing countries. On the other hand, Beverley Geer-Butler records a discussion during the 1990 meeting of the North American Serials Interest Group concerning the formation of a machine-readable union list of serials; goals and standards must be established for the participants.

Other sorts of cooperative cataloging arrangements have had participating libraries working on specified areas of well-demarcated materials. For instance, Latin American books have formed the subject of much cooperative cataloging effort: Mark Grover finds that the acquisitions part of this cooperative effort has been much more successful than the cataloging part; LC did more than 50 percent of the cataloging for the materials. Konstantin Gurevich finds that available cataloging copy for Slavic-language materials has dropped significantly. Clearly something is amiss in the states of affairs described in these two reports.

Unlike the two cooperative efforts described in the preceding paragraph, a project financed by Marcive, Inc., for cleaning up the Government Printing Office (GPO) tapes so that documents could be included in the online catalogs of those libraries that were also regional government documents depositories, did succeed. The libraries of Louisiana State University, Rice University, and Texas A&M University all participated in the project, which included the removal of duplicate records and provision of consistent headings. Other libraries having access to the tapes had to resort to measures such as providing for separate maintenance of the documents cataloging records. After the cleanup, the GPO tapes could be merged with the rest of a library's online catalog data.

What is probably the largest effort at cooperative cataloging, OCLC, recorded its part of the year's record in descriptive cataloging. The failure of merger negotiations between the Research Libraries Group (RLG) and OCLC, announced in June 1991, forms the subject of brief articles by John N. Berry III and Dan Marmon. OCLC's inauguration of a new communications system, Passport, caused Judith Carter to write two tutorial articles. The OCLC Cataloging Micro Enhancer system provided the subject of articles by Linda Klimczyn and Marsha Tate, on the one hand, and Carol Walton and William Covey, on the other. Erik Jul provided a brief newsletter overview of OCLC research projects, and just a few months before the breakdown in merger negotiations between the RLG and OCLC, there was a jointly sponsored seminar on local systems reported on by Kathleen Bales et al. Finally, as a response to the increasingly bulky nature of cataloging tools, OCLC started to develop a cataloger's workstation with new search techniques to be called FastCat, as David J. Stephens reports.

To sum up, cooperative activities do not generally produce much in the way of true research, although studies such as that on the NCCP do serve as models of action research, research aimed at providing a reasoned agenda for policy modification.

**RETROSPECTIVE CONVERSION**

Although one might have thought that the days of massive retrospective conversion projects were over—the vast majority of the world's large library catalogs seemingly having been converted to machine-readable format—such a surmise would be wrong, given the evidence of the 1991 literature. In his survey of retrospective efforts since 1974, John R. Turner describes many projects outside of OCLC. Some of the databases being converted will probably reside in some fixed medium such as CD-ROM, while others will become part of large-scale online bibliographic databases. Claudia Fabian reports on the 1990 International Conference on Retrospective Cataloguing in Europe. Reinhard Horn and Gertrud Friedl report on continuing efforts for the German census of incunabula, while others report on microfiche editions.
of large German collection catalogs. John Rutledge et al. examine the unique nature of the catalog of the German State Library (Deutsche Staatsbibliothek), and Jürgen Bunzel writes on the use of externally produced cataloging copy in the catalogs of the Bibliotheca Palatina and the Bibliothek Corvey. Gerhard König reports on the conversion of the catalog of the Lower Austria state library, Hansjürgen Maurer on the conversion of a regional library system, and David Jeremiah completes a discussion of the conversion effort for the National Library of Wales. Catherine Lupovici provides a tutorial discussion on retrospective conversion. The quantity of such literature in the European library press indicates that the catalogs of many European libraries are yet to be converted. The filming of many catalogs would also indicate that those catalogs are compiled on the basis of rules sufficiently different from current codes that assert data from the catalogs will not be acceptable in a large-scale bibliographic database.

Before one talks of converting any cataloging to machine-readable form, one must first have a set of records. Donna Canevaro de Paredes and Marie Kishchuk discuss the initial cataloging of material in the Ukrainian Museum of Canada, Saskatoon, while Nita Dean (A) describes the cataloging of medical artifacts at the Cleveland Health Sciences Library. Both of these projects clearly work with the objects being cataloged in hand. Conversely, according to an announcement by Dean (B), OCLC is compiling a catalog of Chinese books published in the 1911–49 period using entries in bibliographies. The 120,000 books, found in three libraries in China, will not be examined physically.

Completing the picture of vast, unconverted library catalogs, David Farrell claims that most of the large collections of interest to humanists have yet to be converted to machine-readable cataloging, chiefly collections in the scientific, technical, and medical fields have been converted.

The management of retrospective conversion of serials cataloging conversion is explored in a 1990 NASIG session recorded by Daphne C. Hsueh.

Little exists in the way of studies as to why catalogs compiled on older principles cannot be converted in such a way that they can be merged into large-scale bibliographic databases. More work needs to be done in this area. For example, varying amounts of descriptive detail have never prevented merger of catalog files. Can differing headings not be changed through a table of references? The fact that many catalogs provide for one name heading only puts records from this kind of catalog in no worse condition than LC-produced MLC records. Research is called for.

MANAGEMENT OF CATALOGERS AND CATALOGING

In early January 1991, there appeared a posting on AUTOCAT to the effect that the cataloging staff at one large library had been told that reference librarians were far more professional than catalogers because their work was not bound by rules. Accordingly they would be paid more than catalogers. The person making the posting asked if there were any counters to the argument. Not until May did the last reply to the posting appear. The quantity of the replies may impress one about the professional insecurity of catalogers. Or it may impress one about the substantially incorrect view of the world left by the question. Answered either way, the controversy demonstrates the interest of catalogers in management issues.

Wendy Wood documents a changing set of roles for library catalogers; on the basis of her survey at one library, that of the University of Kansas, Wood discounts the belief that catalogers will have a decreasing role to play in libraries of the future. Instead she claims they will be seen as managers.

In 1989 Simmons College hosted a conference on recruiting, educating, and training cataloging librarians. Full versions of the conference papers were published contemporaneously with the conference; in 1991, Sheila S. Intner and Janet Swan Hill issued a transcript of the papers as given. There were substantial differences between the two versions.
Deborah Fetch and Kristine Rankka discuss staff training for online catalogs, as do Barbara G. Preece and Betty J. Glass. Evidently changed expectations of the staff after installation of an online catalog are substantial. Gene Rollins documents workflow changes resulting from installation of the GEAC system in the University of Houston library.

A stereotype of catalogers has them puzzled over the minutiae of rule interpretation. Mary K. Bolin offers as an antidote to this way of working the advice that quick decisions are generally good enough.

Although it is not unheard of for students with low-level language capability to be employed as helpers to a cataloger, as Joni Gomez and Johanne LaGrange document, the use of elementary school students to maintain a school library's catalog seems unusual. Nevertheless, Shirley Swartz reports favorably on such an arrangement employed in the updating of a shelflist.

An important part of cataloging management is the avoidance of arrearages. In the absence of external constraints, proper planning through the rational hiring of catalogers should prevent the appearance of arrearages. Nevertheless, LC has acquired substantial arrearages through time; around 840,000 titles were in the monographs cataloging arrearage in 1990. Because employment in the Cataloging Directorate had dropped precipitously since 1985, LC was unexpectedly provided funds in 1991 to provide for 164 positions that would bring staffing up to the 1985 level. As part of its efforts to combat arrearages, LC announced a new schedule of cataloging priorities and levels of cataloging; a few months later LC announced a review of that schedule.

Although staffing levels help prevent arrearages, productivity of individual catalogers can be improved through the application of appropriate technology. In connection with OCLC's FastCat project, described above, Diane Vizine-Goetz reports on an effort to provide a workstation containing full machine-readable and easily searchable texts of applicable cataloging codes and LC rule interpretations. On a less visionary level, Donna Fitch describes BCR-Help-Books, a pop-up program for users of the USMARC bibliographic formats. It acts as a quick reference device for field and subfield descriptions.

Although staff training, staffing, and technological productivity tools help existing catalogers manage their work, libraries in general need a fresh supply of catalogers to replenish losses to the profession. The education of catalogers has acquired substantial importance since a shortage of catalogers appeared in the marketplace around 1986. Though the library world has seen the publication of the 1988 revision of AACR2, the publication in early 1989 of the 20th edition of the Dewey Decimal Classification, the 1988 announcement of the 1993 implementation of the integration of the USMARC formats, and publication of the twelfth edition of Library of Congress Subject Headings with a substantially changed reference structure, no textbook in cataloging was published until 1991 taking into account any of these changes. Given the need for educating new catalogers, this is startling. Finally, in 1991, Jerry Saye published a new edition of Manheimer's Cataloging and Classification: A Workbook, and Ronald Hagler issued a second edition of his highly successful The Bibliographic Record and Information Technology. Cataloging educators will undoubtedly use these resources as well as volumes yet to appear with some sense of relief.

A future direction for managerial studies in cataloging in this era of decreasing financial resources would be operations research models of the effects of varying modifications of cataloging procedures. For example, if reliable data on the time spent in authority work has never been gathered on a sound basis, it is hard to see how any particular change suggested for authority work procedures can be appraised. In the absence of work measurement studies, it is hard to see how staffing improvements can be justified. Without a good model for the effect of technological change, it is hard to justify capital expenditures for a cataloger's workstation. Much room for research can be found in the area of cataloging management.

One artifact of descriptive cataloging is
the MARC format. It can usually be seen by a determined library user who can find out how to examine records in a technical services mode. Instead of treating a full MARC display as a necessary evil, Anne Grodzins Lipow suggests librarians teach catalog users the MARC format. Doing so, she claims, will make knowledgeable library users more effective users of the catalog. Eric Lease Morgan describes a hypercard script to read MARC data; he believes that this will help librarians and users.

Since many students are required to take a basic books and libraries course early in their undergraduate careers, plenty of statistical data should exist on learning effectiveness among these students. It is not clear why such data are not cited in articles on teaching library users how to use catalogs.

**HISTORY**

During 1991, Joseph Smalley published the first translation into English of the 1791 French cataloging code. This central document in the history of cataloging is often cited in the literature but rarely are there evidences of it having been read. The code is important because it is not only the first national code—having been composed in an effort to help the young revolutionary government inventory the wealth of books it had confiscated from monastery libraries—but it also provides the first set of instructions for a catalog written on cards. One may hope for additional analyses, based on a reading of the text, not only of this code, but of others of great importance in the development of the concepts of descriptive cataloging.

H. M. Gallagher sets about providing a philosophical context for the ideas Andrew Osborn expressed in his writings, most notably in his 1941 publication "The Crisis in Cataloging." Again, in trying to trace the development of concepts employed in descriptive cataloging, one hopes that investigations, such as Gallagher's, will have successors. Michael Stuart Freeman explores the effect of the adoption of new technologies on the construction of library catalogs throughout history. Freeman's study should be but a prologue to a more extensive investigation of the connection between technology and perceptions of changes in cataloging theory.

An article by Andrew Osborn, defining his views of the history of cataloging from Cutter to Taube, originally published in *Cataloguing Australia* in 1976, was republished in 1991.

Finally, Robert R. Newlen and a collection of interviews of librarians chronicle the first twenty years of the development of LC's Cataloging-in-Publication program and OCLC, respectively.

The controversies reported above in this review, such as the Line-Svenonius debate, the discussion of transliteration, replays of the history of cooperative cataloging procedures, discussions of the place of main entry, and the multiplication of lower level ancillary codes, all have their analogies in the history of descriptive cataloging. It may well appear that the analogies are so strong that the story of descriptive cataloging is not one of advances but instead one of recurring cycles, of the readaptation of a limited armamentarium of tools to an equally limited supply of problems. If this be so, surely it is time that the development of the concepts be analyzed to see if there is any possibility of a fresh start. The trail marks left by past writers can help today's library community in their new investigations, not only in digging up old concepts but also in patient and laborious examination of new routes down what Panizzi called the narrow, rugged, and uninteresting path "of so vulgar a subject as an Alphabetical Catalogue."27

**NOTES AND REFERENCES**

1. For articles published in 1991, see the bibliography.


11. Materials designated for collective cataloging as groups, on the one hand, or by a given author or on a given subject, on the other hand, were formerly categorized as 2a and 2b, respectively. See “Graduation of Cataloging in the Library of Congress,” in Library of Congress, Processing Dept, Cataloging Service, Bulletin 7 (Dec. 1947), p.1–2.


14. Many notices were posted on two electronic bulletin board services, PACS-L and AUTOCAT, during 1991, on the subject of adding contents information.


25. Katharina Klemperer, TESLA, p.73.

26. The first instances of such distribution can be found in the Cooperative Cataloging Program at LC in the 1920s, when copy from other governmental libraries was printed by LC. Later, copy from other libraries would be printed, up until the end of the program in the 1960s.

27. Panizzi, p.18.

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Enhancing Subject Access in Online Systems: The Year’s Work in Subject Analysis, 1991

Arlene G. Taylor

The research literature published in 1991 in the following categories is examined: users and subject searching, subject access in online catalogs, subject cataloging and indexing, information retrieval, thesaurus and indexing approaches, classification, and specialized subjects and materials. The preponderance of the research dealt with improving subject access in online systems. This seems to have been the result of acceptance by many researchers of a number of previously researched hypotheses that, taken together, indicate that improving online systems holds more promise than trying to perfect the processes of subject analysis.

Subject or topical searching has the peculiar distinction of being both the most frequently used form of online catalog search and the form of search that causes the greatest problems for users.1 In this statement Larson identified a dichotomy that has fascinated researchers for a number of years. While there are those who seem to look for evidence that will allow the deemphasis of subject analysis,2 the majority of writers in this area continue to look at how users search for subjects and to identify ways to reduce the amount of subject search failure.

In 1991 research on general subject access through library catalogs seemed to be concentrated in three areas: users’ approaches in searching catalogs, improvement of subject access in online catalogs, and improvement of subject cataloging.

Users and Subject Searching

A thorough review of research on subject searching and the online catalog was written by Larson (A). He identified a lack of effective subject access to the contents of online catalog databases as a primary problem. Examining the recent research on users and their needs in subject searching, he identified many transaction log analyses, several studies of reasons for search problems, and a few studies attempting to determine the relationship between user experience and subject searching.

Transaction logs continue to be used in an attempt to learn about user behavior. Four such studies were reported in 1991. Hunter looked at transaction logs from the online catalog of North Carolina State University. Subject searching was the most used (52 percent) but least successful search: 62 percent of all subject searches
resulted in “zero-hits.” Many patrons used terms that were not listed in Library of Congress Subject Headings (LCSH) or in Medical Subject Headings (MeSH). Hunter used the study to help evaluate online catalog instruction. She found that people do not want to take the time to learn to use the online catalog. She concluded that effort would be best spent in developing a system in which people can succeed without first having to attend classes or do workbook exercises.

Peters and Kurth described their transaction log analysis of searches in which users tried both controlled vocabulary subject access and title keyword subject access during the same search session. More than 76 percent of users shifted between controlled and uncontrolled vocabulary only once in a session. More than 58 percent of users began with the uncontrolled attempt. The authors concluded that title keyword is not primarily an option of last resort in subject searching and that a bridge that allows users to go from items retrieved by keyword to other bibliographic records containing the same subject headings would be a useful enhancement in the system they studied.

King studied transaction logs from a PaperChase system, which provides access to MEDLINE, a database that indexes mainly journal literature rather than monographic literature. She compared searches of medical students with those of the less subject searching is done. The larger percentages of subject searching than usually are found in online catalogs perhaps reflects the use of journal literature versus use of monographic literature. King also found that, while searching by MeSH headings was common, more than one-third of searches used title words for subject searching. Advanced users used MeSH more than beginners. The PaperChase system gives many prompts to users, such as reminders to use subheadings in subject searches. Thus, one-fifth of all searches used subheadings. In spite of the great “user-friendliness” of the system, users made mistakes and seemed not to understand the use of MeSH tree structures. King concluded that there is a continued need for librarians to assist end users, even when the system is extremely user-friendly.

Larson (C) studied the transaction logs of a large university catalog over a six-year period. He found a consistent slight decline in the percentage of subject searches per year (2.15 percent decline per year) but a corresponding increase in the frequency of title keyword searching. The evidence from the logs led him to suggest that title keyword was being used as a way to do subject searching by users who had found difficulties with subject index searches. He observed that the subject index is still one of the most commonly used searches in the online catalog, but that it is also the search most likely to fail—often providing no items to match a request (a problem referred to as a “zero-hit search”), or else providing too many items to evaluate conveniently (a problem he called “information overload”). He also observed that the decrease in subject searching occurred after the database started growing, but not during the earlier period when the size of the database was static. He suggested that the increase in the size of the database contributed to the problem of information overload. Only about 12 percent of subject searches retrieved between one and twenty items. Larson concluded that the topical elements of databases (e.g., subject headings, classification, keywords) should be considered as related clues that should be combined in the user interface design. His experimental system was described in another paper and is discussed later in this essay.

In a different approach to attempting to understand user subject searching behavior, Allen (B) investigated the probability that users with high knowledge of a topic search differently from users with low knowledge. His purpose was to provide more understanding of user behavior so that system designers can create systems that respond to the needs of different
types of users. Although Allen expected high-knowledge participants to use more varied vocabulary in describing the topic of their information need, this was not the case. The high-knowledge users did employ more search expressions in their searches, as did the participants who reported having difficulty with searching. However, many of the additional search statements were more general expressions rather than being more specific than those that produced the best results. The more general expressions did not produce relevant citations. Allen also found that regardless of a user’s knowledge level of the topic, the most common tactic used following a nonproductive search was to search on a completely different term rather than to try to refine the original search. Thus, knowledge of the online catalog may play a key role. Allen concluded that high-knowledge users need to be directed to appropriate levels of specificity in their searches, and the most efficient means for doing this is through system design.

A final study in user subject searching was written from a reference-librarian-as-alogers deliberately attempt to hide materials under obscure terminology. Mann used a number of examples of real subject searching problems to make the point that subject headings and classification interact to provide subject access in a way that means the searcher does not require specific subject expertise: Uniform headings bring together works with variant terminology, including foreign language works, while the classification groups useful information that is general as well as specific. Mann, a reference librarian at the Library of Congress (LC), argued forcefully against the move toward minimal-level cataloging (MLC), which at LC does not include subject headings or classification. He also addressed a trend in thinking that needs to be researched—i.e., the belief that classification is not needed for works in full-text databases because those works cannot be arranged and browsed on open shelves. He argued effectively that providing entry into full text in a way that circumvents the need to pay royalty fees can only be done via classification along with the subject headings that provide access into the classification scheme.

Lancaster et al. reported the results of research that attempted to determine whether a skilled catalog user would retrieve “the best” materials available in a library on some subject. They also attempted to determine what changes would be needed in future catalogs to allow searching that would result in more of the better materials. “The best” materials on the sample topics were obtained mostly from the lists of recommended readings that accompany encyclopedia articles. The mean recall for the fifty-one searches was 59.4 percent, but the authors pointed out that this was obtained by experienced catalog searchers who studied LCSH intensely before the searches and who performed broad searches in order to achieve high recall with no concern for precision. The authors did not investigate use of classification to find additional material on the assumption that the scatter of related material would be too great to make the approach worthy of study. The conclusion was that virtually all previously proposed means to improve subject access in online catalogs would have only a marginal effect, and that methods calling for enhanced records are impractical. Therefore, they said, an alternative should be found, such as development of an online subject database containing recommended readings on a wide variety of topics.

Weinberg, in a letter of response to the article by Lancaster et al., questioned the possibility of finding “experts” to compile such lists, based on research that indicates a very small overlap in lists of “best” documents prepared by experts in a given field. She also pointed to a major purpose of a catalog as being to identify all works on a topic, without evaluation. She recommended continued efforts to improve sub-
ject access methods rather than simply discarding one of the purposes of the catalog.

**Subject Access in Online Catalogs**

As most researchers do not agree with Lancaster et al. in their negative conclusion, 1991 saw the publication of much research aimed at improving subject access in online catalogs. Larson (C) identified three facets of online catalog systems that can be improved to enhance subject access:

1. the database
2. the search processing and retrieval algorithms
3. the user interface.

I would add a fourth approach to improving subject access: improving the user's understanding of the system. These four approaches were addressed in 1991 and are used to organize the following discussion. A few of the articles discussed more than one approach, and these are discussed where appropriate. One work, that by Aluri, Kemp, and Boll, covered this entire area in treatise-like fashion. They gave background material on databases, users, and subject access via subject headings, keywords, and classification. They also discussed evaluation of subject retrieval in online catalogs.

**Improvement of the Database**

Enhancements to the database can include provision of additional access points in catalog records, provision of additional indexes, provision of authority control, and provision of links to related tools such as machine-readable classification. Several authors addressed the concept of authority control, both in general and specifically with regard to LCSH. Dalrymple and Younger discussed the broadened domain of subject access that has occurred with online catalogs. They suggested that effective subject access involves both authority control (i.e., the results of using controlled vocabulary with a careful linking of terms in syndetic relationships) and informed retrieval (i.e., using feedback from an information system to improve retrieval results). They concluded that combining these methods will require the cooperation of catalogers/indexers, reference librarians/information retrieval specialists, bibliographic instruction specialists, system designers, and library and information science educators.

E. Smith stated her belief that subject access is a problem because there is not enough authority control in online catalogs and because, in their application of subject headings, catalogers are not consistent. She advocated the mounting of references in systems, the study by catalogers of how headings have been used previously, and the increase of communication between public services and technical services staffs.

Several authors dealt with using the machine-readable LCSH (LCSH-mr) in online systems. Because, as explained by Chan, the LCSH-mr is not really an authority file, it cannot be used as it is to validate headings on bibliographic records or to display references to patrons. Rood and Garrison, in two separate articles, dealt with the experience of implementing the LCSH-mr in two systems. Bishoff reported the results of focus-group interviews with library staff (including reference, technical services, and automation librarians) on their anticipated use of LCSH-mr implementation. She found that all staff anticipated improved access to a collection, but there were differences between reference and technical-services personnel in anticipating how LCSH-mr should be used (e.g., whether scope notes should be displayed to the public). Bishoff saw a need for additional training for all staff in both online subject control and LCSH. Drabenstott (A, C) described a research project on determining the content of machine-readable subdivision records in LCSH-mr. She found that more than half were governed by LCSH's “free-floating” list, while more than 12 percent were governed by a “pattern” list. She made recommendations for enhancements to machine-readable authority records to improve the quality and accuracy of subdivision assignment and verification.

In two articles the issue of enhancing catalog records with additional access
points was addressed. Knutson conducted an experiment in subject enhancement to determine whether there would be increased circulation of items whose records had been enhanced. The sample of books (all groups of essays or conference proceedings), previously uncirculated despite having been in the library two or three years, was divided into three groups. To one group Knutson added contents notes and in-depth subject headings that covered more precisely the individual topics of the essays. To a second group he added only contents notes. The third control group had no enhancements. A year later the group with both additional subjects and contents represented over half the circulations, even though they represented only a third of the books. The other two groups represented approximately equal proportions of the remaining circulations. Keyword access was available in the online catalog but was little used; thus the contents notes had less effect than expected.

Syracuse and Poyer reported on various activities that were undertaken to enhance access to the collections of an academic medical library through enhancements to the online catalog. Among other activities was a project to provide subject access to articles in monographic series and journals and to chapters and sections in monographs. MeSH subject headings were added whenever possible, but if no appropriate subject heading existed for an article or chapter, the title was added in a title added entry field to be available for keyword access. The authors found that providing subject access for articles or chapters added an average of six to seven minutes to the cataloging process for each volume or issue.

In contrast to these articles recommending additions to catalog records was one by Connell. Connell compared a sample of book descriptions from the Book Review Digest (BRD) with Library of Congress bibliographic records for those books to determine whether there were matches between the terms in the BRD description and the terms in the description and subject headings (both as given and as keywords) or keywords in titles (both titles proper and other title information). She found that keywords from titles proper along with standard left-to-right matching of subjects produced matches 67 percent of the time, and that additional searching enhancements, such as keyword searching of subjects and other title information, increased recall by 20 percent. Connell believed that her findings show that the words already present in current records are sufficient and that, instead of enhancing records, we should be designing systems to search fields in a prescribed order (i.e., search title proper keywords and subject strings first, and if there is no match, then search other title information and keywords in subject strings).

Yee and Soto recommended changes to the MARC format in order to enhance subject access. They studied the problem of which index users would choose when looking for names of fictional characters and persons as subjects, if given a choice between subject and name indexes or between subject and author indexes. The study brought out the inconsistency in online catalogs resulting from the restrictions in coding in the MARC format (e.g., x00 fields are for names, but names of fictitious characters and performing animals must be coded 650). They recommended creation of a new tag in both the 6xx and the 7xx fields for proper names other than geographic, personal, or corporate.

Allen (A), whose earlier-mentioned research examined search success in catalogs based on knowledge of a topic, also looked at research that studied knowledge of the catalog or certain cognitive abilities such as logical reasoning, visual memory, and induction abilities. In general such research has found that all of these except better knowledge of a topic result in improved use of online catalogs. Allen argued that librarians' egalitarian value system (i.e., "Everyone should be able to make equally effective use of the catalog") has affected system design and has served to handicap the topic-knowledgeable user. In particular, Allen's research showed that high-knowledge users entered more search expressions and more varied vocabulary than did low-knowledge users, but the richer strategies failed to result in better re-
enhanced with table of contents terms. The system builds a semantic network by linking natural-language terms to controlled-subject terms via software-generated references. In order to break the resultant large subject retrievals into meaningful subsets, the system links subject headings to LC classification numbers. Unfortunately, Micco has a misunderstanding about LC call numbers that has affected the system design. She recommended several times in the article that LC should include a code to differentiate "author" cutters from place, subtopic, and period cutter numbers so that clustering could take place. It was clear from the context that by "author" cutters, Micco meant the cutters that are used to distinguish items from one another. In fact, in the MARC format item cutters are preceded in the 050 field by a subfield b code. In spite of this problem, the system has demonstrated its ability to narrow or expand a search depending upon whether the retrieved sets are initially too large or too small.

Larson (B) examined the major problems with subject access in current online catalogs: users' lack of knowledge of LCSH, users' problems with mechanical and conceptual aspects of query formulation, searches that retrieve nothing (search failures), searches that retrieve too much information (information overload), and searches that retrieve records that do not match what the user had in mind. He also examined the theoretical bases and practical application of probabilistic ranking methods in third-generation online catalogs. In particular he addressed the problem of information overload by describing an experimental catalog (CHESHIRE)
that uses classification clustering and associated retrieval techniques. In contrast to Micco's system, which uses classification to subarrange large sets at the end of the search, Larson's system creates classification clusters at the indexing stage. A cluster record in the classification cluster index consists of the titles and subject headings assigned to all of the MARC records in a single LC classification. Weighted stem indexes are used to provide access to subject and title words in each cluster record. While the system increases the number of potential access points for a given item, it also assists with the information overload problem by providing clustered responses, thus reducing the number of individual records that must be examined.

**Improvement of the User Interface**

Enhancements to the user interface involve the design of the means of specifying searches and the design of the organization and format of retrieved information. In her presentation on the ideal subject system, Dykstra stated that the ideal catalog is one that you hardly know is there. While this is not yet the case, several authors have addressed the issue. Mandel discussed the options available as strategies for providing access to multiple vocabularies: segregated files, mixed vocabularies, integrated vocabularies, and front-end navigation. She suggested that the best solution will come with expert-system technology in the next generation of online catalogs.

McCary and Svenonius investigated the problem occurring in online catalogs when too much is retrieved (Larson's "information overload"), and the resulting display is arranged in what appears to be an unintuitive and unhelpful manner. They found that 53 percent of the online catalog subject heading screens in their study were "lengthy"—defined as having the heading term with its extensions (subdivisions, qualifiers, etc.) taking up two or more screens. Compression of headings in various ways (e.g., eliminating from the initial display the entries for a subject heading whose first subdivision is geographic) resulted in reduction of display lengths by 33 percent, 81 percent, or 10 percent depending upon technique used. The authors also looked at the "interrupted display" problem in which a strictly alphabetical arrangement of headings beginning with a word results in headings followed by subdivisions being "interrupted" by headings using an inverted modifier or a parenthetical qualifier and headings in the form of a phrase. They found a median of two and a mean of eleven interruptions per heading. They proposed the encouragement of use of subdivision rather than phrase syntax in subject headings and the limitation of conditions under which inverted syntax can be used. Sano also addressed the issue of information overload, but with respect to scientific and technical articles rather than online catalogs. He developed a machine-aided method for presenting results of a subject search in a tabular format.

Srinivasan reported on his ongoing project to develop an expert system front end that mediates between the user and subject headings. His system will provide a mapping between conceptually organized search terms and subject headings.

**Improvement of the User's Understanding**

Attempts to assist users in exploiting online catalogs seem to have mixed success. Hunter concluded that users are not helped much by instruction, and King found that even users of a very user-friendly system need librarians' assistance. However, Lipow tried a novel approach with success. She experimented with teaching users something about MARC in order to assist them in understanding what might be the cause of an unsuccessful search and what might be done about it. Nearly all participants found the session to be helpful. For subjects in particular, they could understand why, for example, a corporate name tagged 610 could be indexed as a name in some catalogs and as a subject in others.

Fernandez studied the semantic relationships between titles of books and the LCSH term most closely associated with the title. In an earlier study she had found
that 26 percent of title phrases matched the LCSH term or phrase exactly. This study examined the semantic relationships of pairs that contained some of the same words but did not match exactly. The relationship appearing most often was hierarchical (53 percent), followed by related-term relationships (27 percent). She recommended that this knowledge be used to educate users that title keyword searching should be used when one’s topic is very specific.

In discussing another type of “user,” Svenonius said that library and information science students should be taught about the design of subject systems and about alternatives to our usual systems. She also asserted that they should be taught to be angry at the current rules so that they can create new designs.

THE FUTURE

Larson (A) developed a description of a “next generation” online catalog system that will likely emerge from current research and experimental designs. He described an academic campus wired for a campuswide network with connections to national computer networks. He said the core of the online catalog would be MARC records for all campus holdings (including those of media centers, computer centers, archives, etc.) with links to many other databases (e.g., commercial databases, full-text reference works, etc.). As the catalog evolved toward an online library, connections would be made with multiple databases, and bibliographic records would be linked to digital representations. Subject searching would combine all searching methods now available plus advancements derived from information retrieval research. The user interface would make use of graphical and windowing capabilities with many search hints and suggestions and with the possibility of following any one of a number of search trails. In Larson’s scenario the goals would be to never let the user fail in a search and to avoid information overload.

Walker and Atkinson presented a similar view. Their research showed that searching a whole range of files was necessary to achieve total retrieval for every subject field (all in the humanities) that they tested. They also found that it was necessary to use both natural-language and controlled vocabulary, although controlled vocabulary retrieved higher postings across all the databases. Based on these findings the authors recommended future systems with software that would give access to multiple databases with transparent user interface and with inter-file linking of terms or headings.

SUBJECT CATALOGING AND INDEXING

In the domain of the production of the records that either make up the databases of online catalogs, or in many cases, continue to be filed in card catalogs, there was less work in 1991 than in past years. A number of subject analysis aids and textbooks were published during the year. The fourth edition of LC’s Subject Cataloging Manual: Subject Headings appeared, and Olderr published a list of subject headings for fiction meant to supplement LCSH. Hagler, Hunter and Bakewell, and Saye published texts, parts of which addressed subject analysis. Studwell (B) continued his series of suggestions for changes to the structure of LCSH, and (C) he suggested increasing the number of headings assigned on LC bibliographic records by adding headings in various situations. Chang and O’Neill reported on two ongoing projects to correct subject headings in online systems: Chang’s project has identified obsolete LC subject headings and is developing an algorithm to sort out and change one obsolete heading to two or more current ones. O’Neill’s project evaluated use of a spelling checker for subject authority in concert with reversal matching.

LC took the initiative to begin working on simplification of LCSH and, with funding from the Council on Library Resources, sponsored an invitational conference to address subdivision practice in LCSH. A report, published in several places, stated the recommendations of the conference. The recommendations, calling for simplification of subdivisions, a
specified order of types of subdivisions, and establishment of topical heading-topical subdivision authority records, among others, will have far-reaching effects in cataloging practices and in online systems. The eventual outcome should be greater consistency, but there could be major disruptions in the short term.

Gregor and Mandel addressed the fact that online catalogs are changing the environment in such a way that cataloging has come under a new scrutiny. They asserted that cataloging has a negative image because of its lack of association with a set of interesting problems. In the area of subject cataloging they suggested that it is necessary to learn from the literature that intercataloger consistency and users' matches with subject terminology are both very low. They argued that it is time to abandon the emphasis on "correct" subject analysis of each item and to turn instead to the process of improving controlled vocabulary and its use in online catalogs. Gregor and Mandel also suggested emphasizing precoordination less and using more of an indexing (i.e., postcoordination) approach.

Some researchers, however, still believe that interindexer consistency should be possible. Reich and Biever studied the index terms assigned to the same set of documents by two agencies that both use the CAB Thesaurus, developed by the Commonwealth Agricultural Bureaux. Their premise, that use of a standard thesaurus will result in identical terms being assigned to a document by different indexers, has been proved wrong by three decades of cumulative research. This study was no exception. Reich and Biever also verified some anecdotal evidence that even when the same concepts are perceived by the indexers, they often choose different terms. This is especially true when using a very specific thesaurus where many terms are near equivalents with only slight variations in meaning (e.g., "cold stress" and "winter hardness"). They also found that variant indexing policies in the two agencies, which are not made available to users, caused some differences in application of terms. They concluded that under the current indexing conditions broad search strategies, negating the precision of a specific thesaurus, are necessary for adequate document recall.

Tonta compared LCSH headings assigned to the same documents by the Library of Congress and the British Library. Again, low consistency values were found: 16 percent for exact matches and 36 percent for both exact and partial matches. Tonta did not investigate how often different, nearly synonymous terms represented the same concepts but did suggest that policy differences between the two agencies probably accounted for much of the difference.

McCue, Weiss, and Wilson took a somewhat different approach to comparing cataloging from different libraries. They compared the cataloging of a group of "best" libraries who are members of the Research Libraries Information Network (RLIN) with cataloging from LC. The purpose was to use the results in training support staff to handle high-quality member copy. Of the enhancements that were required on LC records, 58.8 percent were in the MARC 650 (topical subject heading) fields, while enhancements made to 650 fields of records from other libraries ranged from 7.6 percent to 48.2 percent. Thus, the study found that subject access from LC was no better than that provided by the group of "best" member libraries. The findings support the expansion of cooperative cataloging projects.

Two articles suggested that a major problem in subject cataloging is the lack of theoretical underpinnings. In a reprint of a 1976 article, Osborn roundly criticized LCSH and both the Dewey and LC classification schemes. He suggested that among classification systems the Universal Decimal Classification (UDC) would come closest to serving the interests of information retrieval. He praised Mortimer Taube for the introduction to the list of headings that Taube created for technical reports during World War II. Osborn asserted that Taube's introduction should be read widely for its insights into subject headings. He lamented that LC had ignored Taube's work. He challenged his readers to discover some theory underlying subject analysis as Lubetzky had done in descrip-
tive analysis. Young also noted that theory has not been integrated into the existing systems, and he suggested that we are now undergoing a crisis in subject analysis parallel to the one articulated by Osborn in 1941. Young observed that, in addition to nonintegration of theory, other causes of crisis are the aging of the mainstream systems, the rapid movement into an online environment, and the application of subject analysis techniques to a broader range of materials and topics. It is encouraging that some of the research published in 1991 has addressed these issues.

**INFORMATION RETRIEVAL**

In a 1991 reprint of a 1966 summary of the Conference on Relational Factors in Classification, held in 1966, de Grolier reminded his audience that Nietzsche had once declared that God was dead, but that not too many years later Teilhard de Chardin had reinvented God under the new name “Point Omega.” Then de Grolier continued:

> It is the same with us. We have changed words, in a way. We don’t speak of classification but of “relational factors”; that is much more fashionable. We don’t speak of library systems, we speak of “information control”; that is much, much better. We don’t speak of subject headings, we speak of “information languages”; we acquire on the spot the dignity of something much better.

One is struck, when reading the literature of information retrieval, with how appropriate de Grolier’s observation still is today. Once one has deciphered the terminology, it is clear how relevant information retrieval research is to subject analysis work in libraries.

One writer who has done an excellent job of providing a bridge between the two groups is Larson (B). As he has described, much past information retrieval research is being used in designing third-generation online catalogs. He provided an excellent review of research on clustering. Two researchers provided more work on clustering in 1991. Gordon investigated the use of “genetic redescription” of documents to produce clusters. Genetic redescription is achieved through algorithmically changing descriptions of relevant documents retrieved in response to the same query so that the descriptions will resemble each other more closely. The aim of the research was to group documents into more useful clusters. Shaw (A, B) tested the idea that document descriptions that were enhanced, both with cited references appearing in the paper and with a comprehensive set of citations to the paper, would be as effectively retrieved in subject clusters as would those that had been enhanced with MeSH headings and subheadings. He found that the descriptions with citations clustered as well or better than those with subject headings.

Paice proposed a model for developing information retrieval around thesaural relationships. He suggested that both queries and phrases from documents could be represented by “thesaural excerpts,” which could then be compared during the retrieval process. A thesaural excerpt would be created automatically and would contain the input terms, plus the terms that are related to them in the thesaurus, plus the interrelationships. The input terms could be weighted to show relative importance. Query excerpts would be compared with document excerpts to compute a degree of similarity or overlap. Paice questioned whether current thesauri can be used in this model, but suggested testing to find out. Rada and Barlow experimented with using nonhierarchical relationships among thesaurus terms to improve search results.

**THESAURUS AND INDEXING APPROACHES**

On the whole, research in 1991 seemed less organized in this area than in some of the others. In one very practical application of knowledge gained from earlier research, Milstead presented minimum criteria for satisfactory development, maintenance, and updating of thesaurus software of the kind that organizations purchase or create to support their in-house thesauri.

Schmitz-Esser discussed his perception of a move to a new kind of thesaurus
in the information science area. He first discussed characteristics of conventional thesauri in order to contrast them with new approaches. He outlined limitations of the new thesauri and suggested areas for further work. Riggs described a new kind of online thesauri, called “nomenclators,” that will assist writers in determining whether a given concept has been used in the literature, and if so, the terms used for it, with citations. He suggested that an important audience will be that involved in the preparation of indexes and thesauri for specialized libraries. He also suggested that the classification schemes prepared for individual nomenclators will be linked to class numbers in general classification schemes to help users find pertinent documentation in libraries and information systems.

Biswas and Smith compared printed subject indexes produced by PRECIS (Preserved Context Indexing System) and DSIS (Deep Structure Indexing System) based on the following characteristics desirable from a searcher’s viewpoint: (1) predictability, (2) collocation, (3) clarity, (4) succinctness, and (5) eliminability. They found that a PRECIS index performs better than a DSIS index in all of these characteristics except collocation (in which neither seemed to be superior). Farrow presented a model of text comprehension by indexers (including classifiers and abstractors). He first described the tasks involved and then discussed the process of comprehension of text. He argued that comprehension is affected by time constraints, by task orientation rather than learning orientation, and by the “automaticity” of processing of text by experienced indexers working in a restricted subject range.

**Classification**

Two classification tools were published during 1991: Osborn and Comaromi’s study manual for the 20th edition of the DDC, and the USMARC Format for Classification Data. D. Smith described the work of the Decimal Classification Division at the Library of Congress. Vizine-Goetz described her ongoing project to design a system to support online classifying using DDC. However, most of the work in classification in 1991 concentrated on alternatives to the standard schemes used in the United States.

Haarala outlined the strengths, weaknesses, threats, and opportunities of the UDC, which is widely used in Finland. A number of funded studies have been aimed at improving UDC searching in Finnish databases. Riesthuis, van de Waal, and Zandstra described a proposal for new UDC auxiliary tables for geographic areas and for subjects to be used when cataloging cartographic information. They explained the problems with the current tables, outlined new tables, and discussed the history and future of the proposal working through the International Federation of Library Associations and Institutions.

Cochrane reviewed de Grolier’s role as a synthesizer of international classification conferences between 1966 and 1990. She observed that his distillations were always coherent, succinct, and lucid. He often went beyond summary to point up gaps or lacunae and in addition brought to attention other relevant work that would help in understanding the work of the conference. A reprint of one such summary presentation was appended to Cochrane’s article as an example. Maniez reviewed research produced by de Grolier in the 1950s as found in seven reports written by de Grolier for the FID committee’s “General Theory of Classification.” Maniez saw the reports as containing important history of information science in the fifties, as well as containing much still relevant content. He reviewed de Grolier’s recommendation for a universal classification scheme, which, even though it has not been adopted, could still, according to Maniez, be a satisfying alternative to the main classes of the UDC. Foskett also wrote of de Grolier’s call for a universal classification and suggested that it could be accomplished by integrating specialist schemes. He gave examples from the 1990 revision of Class J Education of the Bliss Bibliographic Classification (BC2). Foskett asserted that the era of classification based on the traditional disciplines is coming to an end and that classifications by levels of phenomena will claim
more attention in the future. In Foskett's view, such a scheme could well be based on BC2.

Husain developed formulas for computing the number of concepts that can be represented by a particular classification scheme. He concluded that because facetted classification has a much larger capacity, it is the only means to match the requirements of a growing universe of subjects. In stark contrast to Husain's concern with having as many classification positions available as possible was work done by Morris. In a secondary analysis of data gathered for an OCLC Online Computer Library Center, Inc., study of class dispersion in DDC and in the LC Classification (LCC), Morris found that in a MARC file of 1,303,300 records, 80 percent of the records were classified into 20 percent of the classification numbers. Some available numbers were not used at all in this group of records. Morris identified three possible outcomes from knowledge of this finding: Most classification numbers in both DDC and LCC could be discarded; the remaining class numbers could be expanded; and the frequency data could be included in the schedules so that classifiers could choose numbers more wisely.

Approaching classification from the user's point of view, Donovan worked from his premise that library users have an innate sense of how materials should be arranged and that the first goal of classification should be to maximize access and usefulness to users. He argued that all schemes deviate from a user's expectations but not to the same degree. The greater the deviation, however, the greater will be the user's psychological discomfort, and therefore the less useful the classification will be. Donovan used the example of the discipline of anthropology to develop a measure of the deviation of library classifications from users' expectations.

**Specialized Subjects and Materials**

Some writers are interested in subject analysis in a particular subject area or for particular types of materials or collections. Wepsiee looked at the hierarchical structure of the LCSH headings under “social sciences” and recommended changes in terminology of headings and references and in relationships expressed among headings. His suggestions were based upon recent research-based refinement of social theory. Jordan explained the rationale behind a list of subject subheadings for personality tests; i.e., in a large collection where the clientele using the tests comes from various academic backgrounds, the tests often must be retrievable by variable tested.

Standard techniques for particular specialized settings were reported. Shubert described the implementation of subject access to serial publications (but not to individual articles in the serials) in a bank library. He predicted that online catalogs with capability for online subject syndetic relationships will encourage many special libraries to provide more subject access to serials. Intner discussed bibliographic control of patron-use software. Her description of the use of LCSH for subject access to these materials was followed by a description of use of DDC and LCC for classification. She recommended using the same classification for software as is used for the rest of the collection.

Crow conducted a survey of academic libraries to determine whether they use classification to arrange sound recordings. She noted that LC had discontinued assigning classification for sound recordings in 1989 and had received only one complaint as a result. Crow's survey showed that only 12 percent classify sound recordings, while 66 percent use an accession number arrangement. The problem is that sound recordings often include works by more than one composer or of more than one type of composition. Crow asserted that no classification scheme has solved this problem, and she predicted that use of accession number for arrangement will increase.

Three authors wrote about subject access to visual images. Based on doctoral dissertation work, Maillet discussed a study comparing three subject systems as applied to a sample of films and videos: Library of Congress Subject Headings, National Information Center for Educational Media Index to Subject Headings,
and the Preserved Context Indexing System (PRECIS). She concluded that the PRECIS system provides superior subject and vocabulary control for media. Maillet asserted that the underutilization of film and video collections can only be overcome by adequate subject analyses of the wealth of visual information in the moving image. Small described the system she developed to address the problem of retrieving images. Her system consists of various modules containing different kinds of information: an objects file, a file of geographic locations, a scenes file, a titles file, and an elements file. These files can be searched by keyword, and all parts, including summaries, are searchable. Small asserted that the system can also be used for textual materials that are related to the visual images, and both can be accessible in the same system. Roddy reviewed the current means of accessing images by keywords, by comprehensive descriptions, and by visual scanning of images. He then proposed another retrieval option—that of defining first the geographic area and the period in which one wishes to find a particular visual image.

CONCLUSION

The greatest concentration of subject analysis research published in 1991 was in the area of improving subject access in online systems. While there had been some such research in recent years, it had not yet gelled into the body of research that appeared in 1991. Many researchers seem to have accepted a number of hypotheses arising from earlier research that led them to work on enhancing systems:

- Subject searching is the most frequent form of searching in online catalogs.
- Human indexers and catalogers will not produce consistent subject access points, regardless of the system used; nor will users match their terminology with that of the system.
- Improvement of LCSH, per se, while perhaps being helpful, will not provide a panacea for subject access.
- Subject headings, classification, and keywords are all useful clues in locating relevant material by subject.
- Controlled vocabulary is desirable for many reasons, but it needs to be enhanced and augmented.
- Users have little patience with current systems and will give up easily if the system responds with either nothing or with too much.

Once these hypotheses have been accepted, attention can be turned to researching the ways to enhance systems so that they can provide the subject access that users seem to want. Another important factor in 1991 was recognition of the value of information retrieval research, which resulted in its application in several experimental third-generation online systems.

Although there was less criticism of LCSH than there had been in past years, there was recognition that work on consistency in construction of headings would be helpful in providing better access in online systems. Thesaurus research and classification research were both unfocused in 1991, with no one issue gaining attention from several researchers. Authors interested in specialized subjects and materials continued to play catch-up, for the most part, because of the woeful past lack of attention to subject access for anything of a nontextual nature.

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The Preservation of Library Materials in 1991: A Review of the Literature

Marcia A. Watt

Trends of preservation literature in 1991 are enumerated, including paper quality and mass deacidification, cooperative programs, planning, conservation, microforms, binding, photographs, and digital and electronic media. A bibliography of the year's literature is provided.

The more things change, the more they stay the same.

This old maxim is proved in “Hell’s Own Brew: Home Book Renovation from Nineteenth-Century Receipts to Today’s Kitchen Chemistry,” by Rhodes. Her article surveys nineteenth- and early twentieth-century instructions for the care and repair of books. Though it has been almost two hundred years since the publication of the first item in her survey, all of the problems identified by these early “conservators” are still with us. She provides a frightful, though often amusing, look at suggested methods of early book preservation. These include stain removal by placing paper in gently boiling water for twenty-four hours; bleaching by exposure to sulphur fumes; removing spots of oil, tallow, etc., by pressing lighted charcoal wrapped in damp white linen onto the stains; removing crayon marks with rubber cement; cleaning the covers of leather-bound books by rubbing them with ground pumice; and removing the eggs and larvae of insects by striking two volumes together gently and repeatedly (which was to be repeated every two weeks). Rhodes provides excellent information regarding why certain suggestions might work temporarily and at the same time points out the harm done to books, paper, and people if these suggestions are carried out.

All of the issues that concerned these early preservation pioneers are still with us today. We now have a better understanding of many of the problems, but the sheer number of items involved is overwhelming. In addition, the libraries of today have many other media—sound recordings, photographs, digitized images, motion pictures, etc.—with which to be concerned.

PAPER QUALITY AND MASS DEACIDIFICATION

Paper quality and the mass deacidification of paper continue to be major topics in the literature. The number of articles about mass deacidification reflects, in part, interest in the Library of Congress’ request for bids and the evaluation process of those bids. This is especially true of the articles by Wedinger and McGee. Wedinger de-
scribes the FMC deacidification process. McGee outlines a method for evaluating mass deacidification processes. The Institute of Paper Science and Technology reports provide valuable, though exceedingly technical, information about the deacidification methods they tested for the Library of Congress. The testing was very thorough, as the numerous graphs and charts accompanying the text indicate. Lienardy provides information about mass deacidification that is much less technical than the reports for the Library of Congress. Lienardy's bibliographical survey of fifteen mass deacidification methods includes results of the testing by the Institute Royal du Patrimoine artistique, Brussels, of eight of the fifteen methods. (One of the methods, Parylene, does not deacidify. However, it does strengthen paper and if used in tandem with a deacidification process could prove to be immensely important for items of intrinsic value.)

Other topics on paper quality that received attention include mineral fillers in paper (Beazley) and standardization of paper quality for permanent records (Zappala).

COOPERATIVE PROGRAMS

Cooperative preservation programs are the focus of several interesting articles. While cooperation among libraries is not new, institutional needs and requirements vary, creating an ever broadening diversity of cooperative arrangements. Densky describes a cooperative effort in New Jersey to provide written reports of condition and recommendations to smaller and local historical societies, libraries, museums, churches, schools, etc., throughout the state. Such assistance is designed to aid the process of general preservation planning and access to grant money. This model could be adapted and adopted by others.

Turko describes the efforts of Toronto-area librarians to create a local mass deacidification center. Disaster preparedness planning, among a small group of Bronx, N.Y., libraries, is outlined by Davis, et al. Much useful information is offered. Stevenson provides examples of six cooperative programs across the country: Connecticut, Los Angeles, Nebraska, New York, Oklahoma, and Pittsburgh. This is a broad-based look at this subject and includes a list of some cooperative preservation service providers and a selective bibliography.

PLANNING

Adequate planning is critical to a preservation program's success. Several different models have been described or proposed in this year's literature. Harvard University's numerous preservation problems are compounded by the immense size of its holdings. Preserving Harvard's Retrospective Collections is a comprehensive response to the great need of the collections. The University of Pennsylvania outlines a few models of a more modest nature than Harvard's. These plans will be very useful for smaller libraries with limited preservation resources.

In collection preservation, Wright and McDonald describe an analytical approach to preservation decision making, which first identifies the most significant literature in a given field so that material can receive priority for treatment. The compilation of bibliographies and consultation with appropriate scholars is critical to the success of this approach.

CONSERVATION

"How we do it here" is a popular theme for many articles. Such articles often provide fresh insight for tackling preservation problems. They run the gamut from describing the step-by-step process of conserving a photo album at the National Archives of Canada, to broad descriptions of collection conservation of the Festival Gallery Collection and the community college library. Creativity in problem solving is apparent as Miller and Root describe their successes with long-term storage of wheat starch paste without refrigeration. One method employs the storage of paste in a syringe and the other uses irradiation.

MICROFORMS

Microfilming is a major component of many preservation efforts. The impor-
tance of microfilming and the permanent retention of microimages is highlighted by Chace and by McKern and Byrne. The article by Chace describes the dilemma surrounding preservation microfilm. Clearly defined are issues such as why microfilm is rarely accepted as a preservation medium and problems accompanying re-takes, corrections, additions, and targeting. An appendix listing ANSI standards related to production of microfiche is a very useful addition to this article.

Target Packet for Use in Preservation Microfilming describes the importance of adequate targeting, the purpose of technical targets, and sequencing standards. The text is clear and provides many examples for different formats. It also includes generic targets for monographs, serials, and archival material. These are printed on heavy stock for repeated use. This is a welcome and valuable addition to the available handbooks on preservation microfilming.

BINDING
In previous years, binding was a significant topic that received a good deal of attention. In one of the very few articles this year, Fairfield discusses the flat-backed wide-hinge method of binding. This method of binding is controversial and has generated heated debates at meetings of librarians and binders alike; other articles are likely to appear in the future.

PHOTOGRAPHS
The virtually infinite processes used to create photographic images also create virtually infinite preservation problems. Unlike printed material, for which a preservation microfilm is generally an acceptable replacement for all copies of an edition, photographs in the nation’s library’s collections tend to be unique. They all need to be preserved. The collection of papers presented at the conference on photographic preservation sponsored by the Research Libraries Group considers this issue from many angles. The possibilities of cooperative preservation projects are also explored.

DIGITAL AND ELECTRONIC MEDIA
The possibility of preservation by digitized means is controversial and has been discussed for some time. Two primary concerns are the impermanence of the media and the rapid obsolescence of the equipment needed to access the bits, bytes, and pits. Bansa and Swan address these issues and present balanced views of the issues involved.

Having moved beyond mere discussion of the feasibility of digital preservation, Kenney and Personius of Cornell provide an update to the digitization project underway at that institution. Waters outlines a bold phased project to digitize information from microfilm, thus providing easier access to information. As these two projects unfold, there should be an increase in the number of articles devoted to this subject.

CONCLUSION
Despite the nearly two hundred years of preservation activity, as presented by Rhodes, much still can be learned about preservation treatment of the old, familiar book. Streamlining work, coordinating efforts, and new techniques in the field are all present in the literature of 1991.

An even greater challenge lies ahead as we learn to care for and work with the newer technologies. If we can rely on the past as an indicator, then we can be assured that people will continue to share their thoughts and practical experience in preservation for years to come.

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The Reproduction of Library Materials in 1991

Glenda J. Pearson

Major topics in the literature of the reproduction of library materials are bibliographic control of microforms, copyright and document delivery issues, equipment and the technical aspects of reproduction of materials, preservation as it relates both to archival and access issues, publishing, and standards. Implications to users of these developments are emphasized.

Issues relating to the reproduction of library materials have now proliferated far beyond the traditional practices of microfilming and photocopying. A glance at the bibliography at the end of this article will quickly reveal the preponderance of citations to articles and books about optical disk technologies and applications; copyright controversies; legal admissibility of electronically stored information; and how the interests of the user are being met, ignored, or revolutionized by the expansion of information technology and its applications to reproduction of texts and images. While the major issues of 1990—preservation microfilming at the local or national level; selection criteria, i.e., what should be saved; minimal-versus full-level cataloging of microform sets; implementation of mass-deacidification projects—are important problems yet to be resolved, they are being increasingly overwhelmed by a vast array of relatively new implications inherent to technological development.

Technology is changing the essence of what used to be meant by “materials.” Librarians now deal with information as a commodity, the content stripped of the familiar physical trappings associated with actual books or journals. Information literally flows from electronic sources directly to users, with the library often functioning as one of several conduits. In this process, text can be transformed, duplicated, reformatted, reconstituted, or even altered. The freeing of information from its physical format has serious implications for the user and the library, including the legal acceptability of particular formats, new abilities to manipulate data allowing for substantive advances in research, the costs of providing access to nonprint sources, and the very real possibility of losing primary source materials.

We are past the halfway mark of the period 1986-96, in which it is predicted that the amount of paper-based information will decrease from 95% to 85%, online magnetic tape will hold at 7%, and information on microfilm will increase from 4% to 6%. Optical-disk storage is expected to jump from 0% to 8%. The newest storage medium, not even mentioned in the ten-year scenario above, is magnetic digital audio tape (DAT), capable of storing up to 1.3 gigabytes, or the equivalent of 2,500 pieces of microfiche, but with a considerably shorter life span.

Librarians concerned about informa-
tion storage and reproduction must realize that materials can now move from paper to film to optical disk to online environments, and that technology has reached a level that brings this fluidity into the library itself. Writable and rewritable optical disks will allow for the production or publication of materials in-house, as well as new areas of commercial publishing.

PROFESSIONAL ACTIVITIES
The Association for Library Collections & Technical Services (ALCTS) Reproduction of Library Materials Section (RLMS) Copying Committee sponsored the program "Managing Photocopying Services in a Digital Age" at the ALA Annual Conference in Atlanta, in June 1991. The RLMS Discussion Group addressed the issues of archival photocopies and copyflow at the same conference. Full reports on the 1990 Bibliographic Control of Microforms Pre-Conference have been published (Holley).

A number of statewide preservation plans are taking shape around the country; Abbey Newsletter published a list of more than twenty states that have begun organizing this effort. AMIGOS has established APS (Amigos Preservation Service) to assess regional needs and to plan future preservation action at local, state, regional, and national levels. The Commission on Preservation and Access has established the Joint Task Force on Text and Image, bringing together librarians, scholars, curators, and other practitioners whose professional concerns involve the use of images with accompanying texts, all of which until now "have been made and are stored on relentlessly disintegrating paper." The year 1991 also saw the First Annual Conference on Virtual Reality, held in London in June.

BIBLIOGRAPHIC CONTROL
The first quarterly issue of the MARC Distribution Service—National Register of Microform Masters (MDS-NRMM) from the Library of Congress (LC) was announced in July 1991. Clareson (B) provides a good summary of the progress in the retrospective conversion of 400,000 records in The National Register of Microform Masters (funded by the National Endowment for the Humanities and the Andrew W. Mellon Foundation, and accomplished through the OCLC Online Computer Library Center, Inc.). The bibliographic control segment of this project allows users to create and to maintain preservation queuing and action data about filming, intention to film, deacidification, and reformatting. Ironically, Holley reports concern from some quarters that federal support of full-level cataloging for microfilm sets may take much-needed funding away from preservation projects. Graham’s Guidelines for Bibliographic Records for Preservation Microform Masters was published, as were several guides to international microform masters (Hazen, Schnelling).

The long-sought agreement for tape exchanges between OCLC and the Research Libraries Information Network (RLIN) fell through in 1991. Lowell provides a thorough discussion of the complexities of utility cooperation and the problems of transferring records from local systems to a utility. But from the user’s standpoint, the ubiquitous presence of Internet and other networks has been a boon, allowing researchers to move almost effortlessly among online catalogs around the world. Researchers are rarely concerned about how the bibliographic record gets to their monitor; only that it is there when they need it.

COPYRIGHT, FAX, PHOTOCOPY, AND DOCUMENT DELIVERY
Copyright is proving to be one of the great unsolvable problems of our time, and technology has so obfuscated the matter that solutions are nowhere at hand. Weiss concludes that we are working with archaic and anachronistic legal rules that both impede technological applications in the area of information development and dissemination and also fail to provide workable solutions for existing situations. One arena to watch is the European Community (EC), as it wrestles with harmonization of laws relating to intellectual property.
(Oppenheim). Cornish (B) worries that, so far, the EC is not even looking at reprography yet, one of the most difficult aspects of copyright. Librarians are cautioned about downloading information from several databases, reformatting it, and creating "new" documents, for although it may now be considered the intellectual property of the library doing the reformatting, such activity does infringe on the original rights and can lead to considerable litigation. Meckler published CD-ROM Licensing and Copyright Issues for Libraries. Jensen looks at this licensing issue in Great Britain. See Christensen's bibliography for a look back at copyright issues in the 1980s, and Dobu for a look forward concerning electronic document delivery and copyright. LC's copyright office published two items on copyright and libraries. Wall looks at photocopy and copyright issues in the private sector. Wilson contributes an excellent piece on the copyright issue and the First Amendment and introduces some rational thinking into this otherwise highly charged debate.

Despite the appearance of Dewey's Fax for Libraries, a thorough treatment of the issues surrounding fax machines in library settings is still needed. Harer and Robbins describe the Fax Board Pilot Study at Texas A&M University, in which documents identified by requesters are delivered directly over the campus network. Brann describes the impact of faxing on interlibrary loan systems, and Ensign looks at the use of fax among branch libraries. Finet looks at photocopying services in libraries, and Sukonthapan completed a dissertation on copyrighted works in microform and photocopying problems. Implications of the FEIST decision are addressed in several articles.

Tornudd examines international document delivery and how international organizations may play a role. Gallico reviews the Second International Conference on Interlending and Document Supply. Lawrence and Timberg have revised their book, including a look at the impracticalities of copyright enforcement. As documents flow in growing numbers with greater speed and in ever-transforming guises across international borders, copyright and document delivery issues will become only more difficult, at least in the immediate future.

**Preservation Issues**

If we consider preservation of the historical record in its broadest sense, we must recognize that electronic technology has introduced some new twists into the already overwhelming preservation issues facing libraries. Loss of the federal memory has been perceived as a genuine threat to the information resources of the nation, beginning in 1985. The problem is not one of deteriorating paper but, rather, of the growing reliance of federal agencies on various types of electronic storage. It is estimated that 75 percent of all federal transactions by the year 2000 will be handled electronically. Congress and the National Archives and Records Administration both addressed this concern with several reports.

A second issue introduced by electronic technology is the use of imaging systems. Several studies of this technology are in progress. A preliminary report on the Cornell/Xerox Commission on Preservation and Access Joint Study in Digital Preservation appears in a special newsletter insert, in the Commission on Preservation and Access Newsletter for November/December 1991. Early indications are that scanning technology is a viable alternative to microfilming for reformatting brittle material. In fact, because of the qualities of digital reproduction, procedures to digitize first and then microfilm (for preservation purposes) could produce a higher quality microfilm than conventional filming from the original print source. The Yale project to digitize a large quantity of microfilmed materials will provide more answers (Waters). Optical Digital Image Storage System, from the National Archives, is the most thorough study yet (378 pages) of the feasibility of using digital imaging and optical disk storage techniques for archival records. While the report concludes that scanning could not be justified on cost alone, further study
may indicate that the benefits of better clarity, accessibility (via national electronic networks), and reduced space requirements will tip the scales in favor of imaging. Clareson (B) also notes research undertaken to determine the accuracy of digitization of microform materials. Brophy (B), on the other hand, describes the termination of an optical disk-based imaging project.

Kahin’s excellent article describes dissemination of material on the Internet, introducing ideas about information and how it should be maintained and preserved. As the National Research and Education Network (NREN) comes closer to reality, the Coalition for Networked Information (CNI) has gained influence in developing policies and practices that will control educational and research networks (Kenneth King). The work of Jean Ledieu, the developer of the only archival compact disc, is reported by Oudard. See also Marshall and Waterhouse for discussions of the CD as an archival storage medium.

Preservation microfilm also comes in for its share of attention. Clareson (A) summarizes the features now available on the OCLC subsystem that will provide nationally distributed information on preservation filming projects. McKern and Byrne’s publication gives practical help to staff involved in preservation microfilming. Harriman reports that efforts to coordinate information about foreign newspapers on microfilm held in U.S. libraries are continuing, with interest in this project increasing. The Commission on Preservation and Access, through the Research Libraries Group, has sent out a detailed questionnaire to more than seven hundred micropublishers in an attempt to determine whether microform masters are being produced and stored according to acceptable standards of permanence.

Abbey Newsletter reports on the continuing conflict concerning the national coordination of preservation efforts, organized primarily around “great collections” on particular subjects and the local need. These efforts are still underfunded. Interestingly, the White House Conference on Libraries and Information Services issued two resolutions concerned with preservation. The first states that Congress should adopt a national preservation policy to preserve our national information resources. The second resolved that states shall be provided with resources necessary to preserve historical and cultural information in their libraries, archives, and historical organizations. Finally, Willard has written about the problem of selecting for preservation, made all the more pressing by lack of time and adequate funding.

Woods points out the need for international cooperation beyond just the exchange of expertise. The Commission on Preservation and Access demonstrated that in a report on its contract with the Bibliothèque Nationale to convert to machine-readable form the entire retrospective register of microform masters (130,000 titles). This is the first project to be supported by the Andrew F. Mellon Foundation grant to create an international database of bibliographic records for preserved library materials and of facilitating cooperative preservation microfilming outside the United States.

**Microforms and Multimedia**

An examination of the actual use of microforms, CD-ROM databases, and most recently, multimedia products provides an interesting perspective on the value of these materials and the impact they have on scholarship and the information storage industry. Many citations have been included from trade journals (most notably INFORM), because libraries historically have found themselves having to adapt to equipment and other kinds of technology originally designed for the private sector. In terms of information storage, hybrid systems that incorporate combinations of microform, tape, and paper storage are widespread (see articles by Jorda, Kaebnick, and Kidd, among others).

Stoller, Broidy, Breen, Smith, and others continued the familiar debate about the usefulness of large microform sets for scholarly research. Consult Nicholl’s survey of commercially available CD-ROM databases for a comparison of this medium to online databases; CD-ROM products grew from one offering in 1985 to more than 1,025 by 1990. Fully 46 percent of
CD-ROMs are source or full-text products; this alone has important ramifications for collection development librarians. Safady (A) has produced an interesting review of the market for optical-disk products. Browning presents a cost analysis of a CD-ROM full-text periodicals system versus periodicals on microform. Canceling microform subscriptions generated a mere $1,700 to apply toward the considerably more expensive CD-ROM product. Users' satisfaction should also be considered in a complete study.

**MICROPUBLISHING**

**AND ELECTRONIC PUBLISHING**

Citations in this category have, for the most part, been limited to articles discussing products that aim either to replace microforms or are directly linked to microform products. Billings, for instance, insists that money now being spent on microforms should be redirected to producing huge databases with electronic retrieval capabilities. Stratford et al. interview Sir Charles Chadwyck-Healey, chairman of the Chadwyck-Healey Publishing Group, describing the history of the company, discussing its commitment early on to microfiche over microfilm, and touching on the publisher's plunge into CD-ROM publishing.

For critical evaluations of electronic databases, see Clever and Dillard, McSean and Law, and Cranlick. Hernon and McClure provide an excellent overview of the status of the U.S. census materials and their availability (and searchability) on paper, CD-ROM, and electronic bulletin boards. They, and many other authors cited here, discuss the dilemma faced by depository libraries as the federal government commits an increasing number of publications to electronic formats. The possibility of simply networking vast amounts of raw government data is a strong one. Costs formerly carried by the federal government are now landing squarely on depository libraries, many of whom are now struggling to provide access to government information. A second concern here is the growing privatization of formerly public documents. Shill presents a thorough examination of this issue, including whether the government should use its information proactively or rely on market forces to determine importance of the various contents of the federal memory. Is government information an economic resource or a public good created with taxpayer funds? See also Kovacs' report from the Govdoc-L Discussion Group.

**EQUIPMENT**

**AND TECHNICAL ASPECTS**

As with the other sections of this review, technological advances have swamped the subject with articles about electronic equipment and innovations beyond the field of micrographics. Wingert provides helpful definitions for terms bandied about in the technical literature on equipment. See also Moore's glossary. Several articles appeared that evaluated equipment, including Hutchinson's extensive review of CD-ROM drives and the R.A. Morgan Company review of microform reader-printers. Bernard Williams has provided his usual outstanding series of surveys on a wide range of equipment. Both Pederson and Finet discuss financial considerations in self-serve copiers.

The RP 600Z Microfiche Reader Printer from Minolta has a zoom lens feature and can be adapted for microfilm. Minolta and 3M have both added dual function carriers to their reader/printers. Eye Communications Systems, Inc., has introduced the Eye Coni ZooO Dual Page Microfiche Reader.

Kodak has introduced a photo CD service that scans 35mm images, writes them onto compact disc, and then plays them back on a Kodak Photo CD player (Kodak). Kodak also announced the highest-capacity commercially available CD (10.2 gigabyte version with storage capacity of one terabyte). The new 3M Model 6600 MDC (Mixed Document Camera) is a medium-to high-volume rotary camera that can handle a wide variety of documents randomly sized. The MRS 60, a new low-cost microfilm retrieval system from Connecticut Micrographics can be installed on most microfilm readers or reader/printers. MetaFAX, from Metafile Information
Systems, is a document image processing system that sends images via fax machines to computers and back again without requiring paper copies.

The Image Permanence Institute is a year into its research on the dark stability of color microfilm products, and results so far indicate that Cibachrome is very stable and will probably outlast the gelatin and the polyester support.

**STANDARDS**

The year in review is notable for the number of standards being revised, developed, or recently proposed. Walch includes 150 standards that are relevant to preservation matters, including microfilm and electronic media, storage, and the reproduction of photographs. A summary of the National Archives annual report shows work on a number of standards affecting analog and digital recording on optical and magnetic systems. The Association for Information and Image Management (AIIM) published *Imaging Standards* and two technical reports concerned with optical disks. AIIM is also beginning an examination of the legality issue presented by digitally stored information (Kidd), while Skupsky published *Legal Requirements for Microfilm, Computer and Optical Disk Records*. See Moen for an overview of issues facing the European Community that relate to reproduction of library materials. Several standards that directly affect micro formats are being revised (239.32-f98-9, Information of Microfiche Headings; 239.62-199x, Eye-Legible Information on Microform Documents), are to be revised (239.26-f98-1, Advertising of Micropublication), or are in the formation stage (Guides to Microform Sets). Chace describes the need for standards for preservation microfiche.

A new technical committee has been formed in the National Information Standards Organization (NISO) to work on international standards for office equipment, including facsimile equipment and copiers. See Kidd (B) for an annotated list of groups working between government and industry on problems with the latest developments in information technology.

Young describes the standards frontier in his article on the Rock Ridge Interchange Protocol (RRIP) and the System Use Sharing Protocol (SUSP). The second edition of *Technical Standards: An Introduction for Librarians* has been published. This work includes extensive information about NISO and the standards themselves.

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A Rising Sense of Urgency: The Year’s Work in Serials, 1991

John J. Riemer

The serials literature published in 1991 is reviewed and characterized. Priority issues that demand immediate professional attention include scholarly communication and serials prices; serials use patterns and other evaluation criteria; the development of electronic serials; cataloging, indexing depth, and physical arrangement; automated serials control; and conservation and preservation. Few of the service issues display evidence of established practices that are obviously still working today.

INTRODUCTION

Not even a recession could prevent the rate of increase in serials costs from reaching stratospheric levels. American serials prices jumped 12% and those of European subscriptions 25% for 1991 alone. Both represent all-time records.1 By the late 1980s, Association of Research Libraries (ARL) institutions were spending 18.7% of their overall budgets on serials.2 Paralleling the ominous shrinking in coverage of the earth’s protective ozone layer, the portion of the serials universe held by the typical ARL library has dropped, during a thirteen-year period ending in 1987, from 33% to 26% on average.3

Time is of the essence on a number of other serials fronts. More than just another physical format to accommodate in library services, electronic journals constitute a challenge by which visionaries can parlay libraries (back) into a leading role in scholarly communication and the information distribution process. Online periodical indexes, those catalysts of journal usage, need to be integrated into library catalogs and have linkages established to the most proximately held copy. Sophisticated and accurate methods are needed for prioritizing and evaluating existing collections. A number of standards are in need of more work before they can serve as foundations of increased cooperation among libraries and their information trafficking partners. Librarians must combat trouble from the rear in the form of mutilation and disintegration of serials resources acquired in the past. Now is the worst possible hour to find ourselves short of good serials librarians to fight these battles.

All of these issues are addressed in 1991’s work in serials. Commendably, a number of papers demonstrate a healthy respect for the complexity of life. In their holistic outlook, their authors examine a range of interconnected factors in seeking a breakthrough.

The journals cited in Library Literature’s coverage list or cited in past editions of this review were examined for serials-related work, as availability permitted. Developments in international serials librarianship were included when notices were found in American publications; only...
a few state-level library journals are covered. Late-arriving 1990 material is included in this review if it was not included in the 1990 essay. The broadest possible view of serials librarianship is attempted, within the confines of the library field's literature. The arrangement of topics below mirrors traditional processing workflow.

**GENERAL WORKS**

While most views of a particular institution in the literature are through the window of a single aspect of its operations, fully a dozen essays appeared in 1991 that allow one to see in the round a serials unit with an overall reputation for quality. This multifaceted case study approach is not normally found in a given year's work. *The Good Serials Department* contains most of them in the form of the first half of volume 19 of *The Serials Librarian*.

The libraries range the full spectrum of collection sizes. McKinley, Jones, and Randall describe the library at the University of California, Los Angeles; Christ, Monson, and Wilhite cover libraries at the University of Iowa; Kruger writes of decentralized operations at the University of Illinois at Urbana-Champaign.

Representing medium-sized institutions (those with fewer than 30,000 active subscriptions), Harrington (B) and Busston report on the libraries of the University of Oklahoma and Texas A&M University, respectively. Arcand, Osmus, and Townsend comprehensively document serials workflow at Iowa State University Libraries. Tao, Fang, and Cole (B) report on the Shanghai Library's unit, established only five years ago.

Exemplifying small colleges and universities that subscribe to fewer than 10,000 titles, Steinhagen and Baird write of the library at the University of Idaho; Malinowski traces the history of the serials unit at California State University, Fullerton; Bevis and Hubbard cover serials librarianship at Jacksonville State University in Alabama; and Pamela McKay describes processes at the library of Worcester State College. A branch-library focus highlights Green's paper on Leeds University's Science and Engineering Library. Hurst's overview of processes at the Canada Institute for Scientific and Technical Information is similar.

In another paper taking the generalist's approach, Kirk considers multiple approaches a library can take to offset the adverse impact of rising subscription costs. He believes overall service quality can remain high if a library compensates on as many fronts as possible. These include ensuring relevance to curriculum and conducting use studies, including a focus in bibliographic instruction on the titles one does hold, improving indexing to one's holdings, delivering more promptly when interlibrary borrowing is necessary, and accessing citations and full text in others' databases.

A total of nearly 40 workshop reports stem from the 1990 and 1991 annual conferences of the North American Serials Interest Group (NASIG). They cover highly diverse topics. Unlike the plenary session papers, brevity and number prohibit individual citations in the bibliography accompanying this article. They are contained in double issues of volumes 19 and 21 of *The Serials Librarian*.

Ongoing sources of general information include Clack and Riddick's "Balance Point" column in *Serials Review* and the *NASIG Newsletter*. Graves covers the serials developments of 1990 in *Libraries and Information Services Today*, the successor to the ALA Yearbook of Library and Information Services. Bloss (A) summarizes the serials-related activities of the International Federation of Library Associations and Institutions (IFLA). Lonberger reviews in detail contributions made to the serials literature in 1990.

**PUBLISHING AND SCHOLARLY COMMUNICATION**

*College & Research Libraries* ran a series of articles on scholarly communication and serials prices. Okerson sees the emergence of the electronic journals and networks and the general inapplicability of copyright law to the medium as an opportunity for universities to take back from commercial firms responsibility for publishing. Smith
also sees these formats as a means for libraries to wrest control of their economic fate from outside forces. A windfall will be derived from organizing and maintaining a single electronic collection accessible to the scholarly community through libraries of all sizes. Metz and Cherman explore ways we can make the transition to the electronic journal, whose usage publishers cannot monitor or restrict. Dow, Hunter, and Lozier comment on the feasibility of these proposals.

McClure suggests other avenues librarians can take, including taking information and publishing issues to conferences not usually frequented by librarians, conducting value-for-the-price investigations, and assuming a filtering role in critically evaluating journals. Jan Anderson speculates on how a new system of electronic serials is likely to alter the publication process and communication among scholars. In light of four previously unsuccessful attempts at alternative publishing in the sciences, Piternick reflects on the likelihood electronic serials will gain acceptance. She assesses human factors that will affect how rapidly and completely this will happen.

Riddick writes of the possible effects on the serials publishing industry, both in Europe and in the United States, when the European Community begins to operate as a single, integrated “internal market” in 1993. The history of professional association activity of European science journal editors is the subject of Glen and Sharp’s article. Dancik provides an overview of peer review procedures. He and Scanlan identify issues associated with the process. Squires discusses the role of the editor in the process. Serebnick thoroughly reviews the ethical issues surrounding the activities of each player involved in the journal publishing process. Budd surveys the circulation totals and manuscript review practices of seventy-four humanities journals, in an update to an article ten years prior. Gidez measures the quantity of papers biologists review and the time the process requires of them. Weller reveals the differences in the peer review process between a group of very well established medical journals and a group of those without such a reputation.

Feldman looks at the effects of Elsevier and Kluwer’s merger and acquisition activity on professional and scientific publications. Providing a historical perspective, Knoche examines the impact of the rise of Nazism on German science journal publishing.

**BIBLIOGRAPHY/COLLECTION BUILDING**

Burt has produced a guide to serial publications on the visual arts of Africa, Oceania, and the Americas. Fidler and James profile the world’s music journals. Geary identifies a core list of criminal justice periodicals for a four-year degree program. Burns provides an annotated bibliography of serials on peace, disarmament, and arms control. Macklin and Tarleton do the same for the emergency management field. The team of Coty and Tao cover earthquake serials. Fair and Havens list nutrition journals. Freiband and Cruz compile and analyze a bibliography of Spanish-language library and information science serials. Taking a geographic focus, Robinson studies the serials output of Tennessee publishers.

**ACQUISITIONS**

Serials budget pressures are forcing examinations of how balanced and equitable library funding is distributed by discipline. Bustion, Wiggins, Harrell, and Gyeszly suggest considering factors of institutional support for instruction, student enrollment, faculty appointments, historical precedent, growth rate of collections, and subscription costs. Toward monitoring expenditures, Hapman describes a dBase III+ application for managing a small academic library serials budget. She includes instructions on how to update data using vendor-supplied information. Khoo, Ong, and Yap discuss use of a general purpose flat-file database management system for IBM-compatible microcomputers both for serials fund accounting and report generation.

McQueen and Basch outline how subscription agencies operate, and discuss negotiation strategies libraries can use, based on the makeup of their shopping list. The
same writers (with N. Bernard Basch as first author) provide much more detailed advice in *Buying Serials*, the first such work since Katz and Gellatly's 1975 *Guide to Magazine and Serials Agents*. Clasquin reports the success of a Western subscription agent's attempt to introduce its services in Moscow and explains how serials distribution in the former Soviet Union has functioned. Sze and Naznitsky relate an American corporate library's money-saving experiences when it completely canceled subscription agent services.

Utilizing case studies, Warzala analyzes the advantages and disadvantages of acquiring monographic series on standing orders and via approval plans. In her examination of the various subscription models for electronic formats, Sabosik sees a trend from usage-based to unit-based models, and she shows other similarities to paper copy subscriptions.

Le Guen reports costs and benefits resulting from automating serials acquisitions at a corporate library. Automation of the exchange of orders and invoices could become a great boon to the acquisitions process. Schwartz reports on the Faxon Company's Electronic Data Interchange (EDI) pilot project, which is based on the American National Standard Institute's (ANSI) X12 standard. He also examines the library community factors mitigating against the pursuit and implementation of EDI.

Two ongoing sources of acquisitions information are *Against the Grain* and Case's "Tools of the Serials Trade" column in *Serials Review*. The former covers the annual Charleston conference. Jácó evaluates two serials directories in CD-ROM format, Ulrich's and EBSCO's, along a range of criteria. Tao, Fang, and Cole (A) introduce the reference tools used in China to select serials.

**SERIALS PRICING**

The pricing crisis was the most prevalent and pervasive issue of the year in the serials literature. Bloss (B) reports that an all-day workshop at the 1990 IFLA Conference focused on the differential pricing of monographs and serials. For an excellent overview of writings on the topic, including the general issues involved, comparisons across physical format, the various proposed coping strategies, and policy implications, see Martin. She perceives the library's role as information consumer overtaking that of information provider.

A major continuing source of serials pricing information is Ivins' "Serial Prices" column in *Serials Review*. She pulls together in one place statistics, activities on multiple fronts, conference reports, and annotated bibliographic citations from both library literature and sources beyond. *The Newsletter on Serials Pricing Issues*, edited by Tuttle, and David Anderson's annual study of veterinary journal prices are two others. Fortney and Basile initiated another annual price study for health science titles, and the first two editions appeared in 1991.

While previous cost studies take into account factors such as page counts and typography, Meyers and Fleming report for the first time the methodology behind the Optical Society of America's cents-per-thousand-words price analysis. Marks and Nielsen conducted an extensive study of twenty years of Utah State University serials payment records for 370 science titles, making adjustments for inflation and currency exchange rate fluctuations. Their study complements and concurs with the 1989 *Report of the ARL Serials Prices Project* findings that three foreign commercial publishers are responsible for disproportional share of journal price increases and go well beyond increases in producer cost. They find that constant dollar price per page has risen 50 percent in the twenty years; the Marks, Nielsen, Petersen, and Wagner republication of the same study corrects that figure to 78 percent.

Kellogg studies the numbers, characteristics, and costs of CD-ROM serials and contrasts prices to those of available hard copy equivalents. Articles by Rogers and Greig and by Garlock examine the effect of increasing serial prices on Canadian academic and research libraries.

**EVALUATION AND USE STUDIES**

An outgrowth of the cumulative pressure on serials budgets is the proliferation of
published studies of the actual use of serials enjoy and applications of evaluation criteria. McCain demonstrates two new bibliometric tools useful in serials evaluation efforts. Using spreadsheet software to analyze co-citation data, she can identify the core journals in a field and create a two-dimensional map of an area's subject structure. She applies these techniques to genetics literature and reports having also succeeded with economics journals.

Rashid studies the relationship between the number of papers published by physics, chemistry, and biology journals and the rank of the journals according to the number of papers published in them, in order to propose an update of Bradford's law of scatter. Swigger and Wilkes find a weak relationship between what the guidance citation studies and reshelving studies give in informing deselection decisions; the former studies measure use of a journal for research while the latter may better reflect usage in undergraduate instruction. Subjective evaluations of value by librarians and faculty are a third measure.

In a pair of articles, Milne and Tiffany evaluate relatively simply the cost-effectiveness of serials by dividing known usages into the title's subscription price. The result is compared to the cost of paying for the title as opposed to interlibrary loan access to it. The companion article details their methodology.

Surveying American and Canadian libraries for the criteria used in adding and subtracting serials from their collections, Hawthorn finds general consistency of policy. Taking advantage of the opportunity presented by an automated serials control system, Degener and Waite report on capturing weighted evaluation data during and after the selection of health science journals.

Dugger, Lange, and Turnage report on the success of three members of the East Texas Consortium of Libraries in cooperative collection management. At the time of coordinating serials cancellations, they instituted arrangements for free weekday telefacsimile of articles within twenty-four hours from the one campus chosen to retain a given title. Considerable savings could thus be realized during a funding crisis, with a greatly minimized impact on access to materials.

**Electronic Serials**

A number of articles not already mentioned in other sections have electronic publications as an exclusive focus, or they emphasize what libraries are doing to make them an integral part of their collections. Wang provides an enlightening review of historical events foreshadowing and leading up to the development of electronic publications. Langschied reviews various and contradictory predictions and pronouncements on the nature of electronic journals.

In McMillan (B), we can read of the work of Virginia Tech's task force on the electronic journal. Benefits and problems in providing access to these publications are presented. In McMillan (A), those task force members comment on systems, reference, collection management, technical services, and staff training issues raised during implementation of their recommendations. Kaufman and LeClercq specifically address the archiving of electronic journal issues.

**Cataloging and Classification/Shelf Arrangement**

Similar to the pricing crisis, the serials cataloging literature is dominated by issues that will not go away. In a piece including the ironic title words "final thoughts," Cole (B) effectively takes to task the abandonment of corporate main entry. He provides the history of this move and demonstrates the question is not moot, since the main entry concept's relevance endures. He evaluates how well nearly universal title main entry functions and finds it wanting. Basing entry choice on analysis of content or purpose leads to inconsistent judgments by catalogers; users are unable to predict the presence or form of a grammatical link between a generic title and its issuing body. The unrealized goal of aligning the bibliographic record with the International Serials Data System (ISDS) record is best
replaced by adherence to the Paris Principles, which support corporate entry. The Cooperative Online Serials Program (CONSER) receives mixed levels of enthusiasm, though across-the-board words of support, in O’Neil. A semiannual newsletter, CONSER, provides updates on the widely ranging activities of the program.

Prompted by planning for a new building, Segesta and Hyslop surveyed U.S. academic library shelving arrangement practices for bound, unbound, and microform volumes. They found that the larger the serials collection the greater the likelihood of a classified arrangement and that a very strong tendency exists to adhere to the status quo. Thornton writes of one library’s desire to switch over to a classified arrangement, its decision not to proceed, and an examination of alternative solutions to improving access.

Williams’ annual review of serials cataloging developments covers 1989. The latest conventions for creating and maintaining the national standard serial cataloging record appear in the twice yearly updates to the CONSER Editing Guide. Cole (A) began a new question-and-answer continuing education service for catalogers.

INDEXING AND CONTENT ANALYSIS

Intner decries cataloging practice that equates one full serial run to a single monograph and advocates expanding online catalog access to serials such as analytics and periodical indexes.

Lynch traces the effects electronic abstracting and indexing databases are having on libraries’ serials collections. These effects include perceptions of what is held being equated to what happens to be indexed, decline into disuse of pre-1960s journal literature, and an acquisitions shift from full journal subscription to individual articles on demand, among others. According to Keeran and Angerman, the Colorado Alliance of Research Libraries’ UnCover database of journal contents led patrons pulling together more interdisciplinary lists of citations and broadened the use of lesser-requested periodicals.

Barnes and McCue advocate that we go one service step further and provide direct connections from the sources in citation databases to local library holdings. They explore the possibility of doing this with Agricola and BIOSIS at Cornell University. They find that obvious standard number fields such as the ISSN (International Standard Serial Number) and CODEN (Chemical Office Document Engineering Number) must be supplemented with other linking algorithms. The authors also recount similar projects that have been attempted elsewhere, having polled colleagues through electronic bulletin boards.

Flanders examines the searching and full-text display capabilities of General Periodicals OnDisc, a product of University Microfilms, Inc. Reva Basch reviews 1991 developments in online databases.

Ferguson and Peterson have used INNOVACQ to create a subject guide to their library’s periodical indexes. Schofer and Richards produce an annual index to interviews in little magazines.

Nadeski (A) reviews cumulative indexes in Serials Review. Kaseus has produced a comprehensive author, title, subject, and book review index to the first ten volumes of Cataloging & Classification Quarterly. Carter and Kaseus analyze that journal’s content during the same period, 1980–90. Barnesberger advocates use of Philosopher’s Index by political scientists. Rukow examines the appearance of pre-twentieth-century surgical literature in periodicals. Assessing the universality of English, Diodato finds non-American mathematics journals have increased use of that language to nearly two-thirds of published articles. Bachir and Buxton compare the titles of Arabic periodical articles to English ones for their suitability for keyword indexing.

AUTOMATED SERIALS CONTROL

Hawks previews improvements in automated serials control systems for the rest of this decade. Farrington reviews the progress automation has made throughout the serials department at the University of Pennsylvania and notes the impact it has had on staff.
In three articles, the standards on which serials control systems rest are reviewed. For a general overview of the Serials Industry Systems Advisory Committee’s (SISAC) bar code symbol, see Sharon McKay andlandesman. Brugger discusses the adequacy of the NISO serials holding standard Z39.44 as used at City University of New York and relates it to the Anglo-American Cataloguing Rules second edition (AACR2) and the MARC holdings format. clack examines the viability of and the rationale and prospects for the creation of a national publication pattern database, which could support widespread usage of the holdings format.

Nicol compares the benefits and drawbacks of the Virginia Tech Library System (VTLS) and Faxon’s SC-10 serials check-in systems. Sze discusses automating serials control at a special library with INMAGIC. Bustin and Highsmith describe the changes in binding procedures upon implementing NOTIS.

Conservation and Preservation
Luke reports that more than two hundred incidents of pages missing from periodicals are discovered per year at her midsize academic library. The majority occur in social sciences, education, and general interest titles. At a comparable institution, Lilly, Schloman, and Hu surveyed students to learn the extent they encountered mutilated periodicals and what their attitudes were toward such “ripoffs.” Surprisingly, 11 percent of respondents admitted to being guilty at some library they had used. Despite a shortage of reading materials and the absence of a photocopier, Msuya reports far fewer incidences at his Tanzanian university library.

Small college libraries with nineteenth-century British and American periodicals in need of preservation are hampered by lack of resources and decision-making structures, Jacobs finds in her survey.

Professional Issues
Upham summarizes and reacts to seven previous Serials Review papers on the future of serials librarianship. Her expectations of what characteristics forthcoming serials librarians will need to possess are founded on a look back on the past fifteen years and her own multifaceted career. Mueller and Mering examine serials job postings from 1980 to 1988 and find that the demand for this specialty has increased slightly of late. Half of the positions were in ARL institutions and only a third did not require experience. Harrington (A) studies, via a literature review, why good serials librarians are hard to find. Among the factors discussed is a trend toward elimination of serials departments and organization of serials activities by function rather than form.

Union Catalogs
Santiago explains the benefits of the International Serials Data System (ISDS) to union catalog creation and maintenance. Chief among them is authoritative, unique identification of serial titles published in all languages and alphabets. Using a mathematical model, De Groote, Rousseau, and Vervliet explain why the peak of usefulness of any off-line union catalog of serials occurs when it is a couple of years old. Brand new ones are no better at locating articles than much older ones.

International Activities
The IFLA Section on Serial Publications issues an annual report of its activities and programs. Numerous views of serials librarianship are published in American library journals. Rondestvedt describes the recent changes in Eastern Europe affect acquisition of serials from Poland and the former Soviet republics. A broad portrait of serials librarianship and bibliographic control in Poland is drawn by Kowalcyzk. Ghani provides background on and identifies current and retrospective Libyan serials. Burrows discusses the reduced ability of Australian libraries to stock serial publications, and McClare notes improvements in serials reference services in neighboring New Zealand. Closer to home, Almada de Ascencio and Pérez de Almada cover scholarly communication
and Latin American serials collection building activities in Mexico.

CONCLUSION

Frustratingly few of the service issues in serials librarianship display evidence of established practices that are obviously still working today. This review demonstrates the search is still on for affordable access to serial literature, effective ways to remain a conduit of scholarly communication, reconciliation with new physical formats, consistent and appropriate cataloging rules of entry, a sufficiently cooperative spirit for collaboration in technical services work, and suitable standards and personnel resources with which to accomplish all of the above.

All vex and demand soul searching. These intractable problems will yield only to those sophisticated analyses that take into account a full range of interrelated elements that make up the bigger picture. It is a promising sign that a number of works in 1991 have taken such an approach. In the meantime, the specialty's only enduring paradigm will be one of change.

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