Collection Development Embraces the Digital Age


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Collection development and management literature of the past seven years reveals distinct trends among issues, philosophy, and practice. Digital age themes reflect the increasingly networked nature of the profession, with new attention focused on scholarly communications and publishing, digital collection building, consortial collaboration, and quantitative assessment. Some issues that dominated the library literature a few years ago, such as access versus ownership and organizational structure, have been eclipsed by other challenges, such as the serials crisis, finance and budgeting, and licensing. Neither solved nor forgotten, they have taken backstage to trendier subjects. Publications on organization, training, professional development, management of print collections, and subject-oriented collection development from 1997 through 2003 generally indicate reliance on traditional skills and knowledge even though practitioners are applying practical approaches to new formats and types of media. More theoretical commentary on fundamental changes emanating from an increasingly networked environment comes from authors who explore the implications of collection building in the digital age and challenge readers to imagine a vastly different future for collection development practice.

Collection development and management literature of the past seven years reveals distinct trends among issues, philosophy, and practice. Issues confronting collection development librarians prior to 1997, such as allocation formulas, dual roles for subject librarians, and access versus ownership, diminished in importance as more complex and critical challenges emerged from the vast expansion of information technology. New concerns—changes in scholarly communications and publishing, building digital collections, consortial collaboration, and quantitative assessment—have eclipsed previous topics, moving well beyond some of the traditional aspects of collection development practice.

Librarians continue to publish on organization, liaison, training, orientation, and the application of collection development to individual subject areas, yet even the more conventional collection development literature reflects the transforming nature of developments in information technology and consumer behavior. The last “Year’s Work in Collection Development” published in Library Resources and Technical Services (LRTS) was in 1993. Lehmann and Spohrer highlighted key topics of collection building, selection policies, cooperative activities, collection evaluation, organization, and staffing. In addition to citing 179 publications, they provided instructions for signing on to COLLDVL. Johnson
compiled the collection management chapter in her Guide to Technical Services Resources. The annotated bibliography is classified by collection management topics, including materials selection, collection policies, collection maintenance, budget and finance, assessment, evaluation, cooperation, resource sharing, and organization. Johnson’s extensive bibliography was supplemented by Owens, whose literature review covers 1993 through 1995. Owens notes that a new theme was the introduction of electronic resources, which she includes in the “Nonprint Media” section of the bibliography. She also observes that the collection management literature is stretching its traditional boundaries, moving into cultural issues, such as women’s studies and diversity.

A working definition of “collection development” or “collection management” frames the scope of this review. The use of either expression as search terms produces an enormous number of hits in any bibliographic database that covers library and information science. Johnson, in her most recent text, writes:

The tasks, functions, and responsibilities now understood to be the portfolio of collection development librarians include selection of materials in all formats, collection policies, collection maintenance (selection for weeding and storage, preservation, and serials cancellations), budget and finance, assessment of needs of users and potential users, liaison and outreach activities related to the collection and its users, collection use studies, collection assessment and evaluation, and planning for cooperation and resource sharing.

By this definition, almost any collection-based activity can be defined as “collection development.”

Given the long time span covered by this review and the large quantity of material published, the authors have (reluctantly) been selective among items discussed. With a few exceptions, this paper focuses on works describing collection development and management theory and practice in North American libraries. Works on school libraries and most special libraries have been excluded, as have publications presented as narrowly focused case studies. Topics that will be covered in other reviews in this series (such as acquisitions and serials) are also excluded. Although most publications included in the bibliography appeared in print or in print and electronic format simultaneously, the authors note the significance of information that percolated in electronic discussion lists. Many important issues about journal pricing, electronic resource licensing, scholarly communications, and numerous other topics were posted to such electronic discussion lists as LIBLICENSE-L and COLLDV-L with some resolution online. While these issues have also made their way into standard research publications, future collection development literature reviewers may elect to give more attention to the online “popular press.”

The discussion that follows highlights publications that illustrate trends in the literature during the review period. Length of the subsections tends to parallel the extent of activity in various topics, with publications about electronic resources management topping the scale. A separate bibliography, appearing at the end of this article, lists the more than 300 titles examined for the review. While we have tried to be comprehensive, we have almost inevitably overlooked some publications of value, and we regret such omissions.

A seminal article by Branin, Groen, and Thorin published during the period of this literature review, “The Changing Nature of Collection Management in Research Libraries,” describes the challenges for librarians in managing the transition to a new and uncharted environment. Economic constraints and digital information systems are driving forces toward the goals of gaining economies of scale and providing clientele with more information at less cost. Issues of ownership and control must be resolved. The authors observe that librarians are becoming knowledge managers (within limitations of staff and budgets), exploring the creation of scholarly publications, and asserting professional principles for free and unbiased access to knowledge. By exploiting networked digital information systems to deliver resources and services online, collection development librarians are synthesizing and aggregating electronic resources, helping to create new publications, and coordinating onsite print collection management with numerous access options, all in a highly distributed, coordinated way. Another Branin article contains four predictions pertinent to collection development librarians. He suggests that the structure of scholarly communications will change, local print collections will become less important than access to global resources, document delivery services will flourish, and librarians will manage resources in a global context.

Three other articles that provide a timely and accurate context for reviewing the published literature of the past seven years offer insightful commentary on collection development and management at the macro level. In a theoretical piece, Fyffe observes that librarians should make scholars aware of economics and other issues changing the culture of scholarly publishing. Making a case for the high risk to information stability in the technical age, he suggests that scholarly work is hanging by a thread with respect to the potential for loss of information. Fyffe urges librarians to increase faculty participation in making collection management choices so that they will be aware of the risks involved.

Casserly’s insightful exploration of the emerging hybrid collection integrates a thorough literature review into a discussion of the values and activities that defined collection development in the print era—selection, evaluation, collection policies, management, ownership, control, permanence,
and place. Drawing on the emerging literature of digital collection building, Casserly poses five questions to demonstrate how librarians are beginning to incorporate the concept of hybrid collection development and management into practice: (1) What are appropriate and useful metaphors for your “library” and “collection” in the digital age? (2) How will your library achieve effectiveness as it builds and manages the hybrid collection? (3) How will your library define efficiency in acquiring and managing the hybrid collection? (4) How will your library establish and maintain a focus on collection content in the changing landscape of scholarly communications? and (5) What commitment will your library make to collection permanence? Lougee observes that as libraries become more involved with creating and disseminating knowledge, their nature is changing. New roles include emphasizing the value of library expertise over value of collections, taking responsibility for greater information analysis beyond traditional description and access, serving as a collaborator rather than simply a support agency, and promoting the library as a campuswide rather than facility-based enterprise. The works of Branin et al, Fyffe, Casserly, and Lougee characterize collection development as rapidly evolving in the twenty-first century. These themes are apparent in the literature published during the review period.

Several book-length works delve into the issues and trends discussed by the profession’s visionaries. In the second edition of Collection Management in Academic Libraries, Jenkins and Morley provide a useful distinction between the more traditional term, collection development, and the focus of the book, collection management, which the authors define as more demanding and inclusive of policies related to acquisition, housing, preservation, storage, weeding, and discard of library materials. Gorman and Miller, in a collection of essays written at the beginning of the period covered in this review, also observe a shift in collection work from development to management. The opening chapter on collection development and scholarly communication by Budd and Harloe predicts that the practice of collection management will evolve away from management of artifacts toward content management in the form of mediation. Special issues of Library Trends and Collection Management focused entirely on collection development. In 1998, Collection Management (23, no.4) and Information Technology and Libraries (17, no. 1) published special issues on cooperative collection development. The Center for Research Libraries (CRL) emerged as a cooperative collection development leader during the period of this review, cosponsoring with the Association of Research Libraries (ARL) conferences in 1999 and 2001. Papers from these conferences reflect major themes in the cooperative collection development literature of this period. Additional work on collection development is found in conference proceedings of the Association of College and Research Libraries (ACRL) national conferences held in 1999, 2001, and 2003. Our bibliography contains citations for many of the items within these collected works, and we discuss selected articles in appropriate sections of this review.

Three articles published during this period suggest that the collection development community resolved the issue of access versus ownership. Kane advocates collections that provide both access and ownership, observing that achieving a balance between the two will require “continual, extensive studies on the use of materials owned, as well as the demand for access materials in order to ensure that user needs are being met in a sufficient and timely manner.” Blagden presents data that demonstrate the good value users receive through unmediated access to a document delivery service. Exon and Punch replicated correlational analyses conducted by Paustian on interlibrary loan borrowing statistics and collection size, concluding that the concept of the self-sufficient library is a fallacy.

**Growth of Electronic Resources**

Everything electronic dominated the collection development scene from 1997 onward. The literature reflects the impact of electronic resources on all dimensions of building and managing collections. Miller’s literature review looks at the changes to collection development brought about by decreasing purchasing power and the growing importance of electronic resources during the two decades 1980 to 2000. In a period with emergence of the Web as its most significant trend, collection development emphasis shifted from building strong, locally owned collections for the long term to accessing remote materials for current use. Articles published early in the period grappled with perceived competition between print and electronic materials in library collections. Norman’s 1996 survey now seems dated; his respondents were concerned that the library would deliver electronic resources directly to end users, a concept that then seemed radical. Still relevant, however, are his comments about resource identification and selection, budgeting, policy development and licensing as well as his checklist comparing traditional and emerging criteria for selection. Galbreath likens collection management in the electronic era to nailing Jell-O to the wall, noting the complexity of processes for electronic resources budgeting, selection, and management. A few more recent publications continue the comparison of the relative values of print and electronic formats. Schaffner acknowledges several positive effects of electronic technology on libraries and scholarship, citing ease of access, raised expectations, expense, and research time saved. But, he notes, students are not learning print bibliographic skills, and it is difficult to assess authority or longevity of many online sources. Younger concludes that electronic resources have overtaken print in
their importance to research library collections. She discusses ways that electronic resources are changing information access, why scholars use them, and how they can be archived.

Atkinson defines values for collection management in the online environment, where the goal is a synthesis of traditional and digital formats. He suggests that future collections will be viewed as online and offline. Offline collections will be made up of physical objects on library shelves or in storage, and will consist of low-use materials, objects with no value, and those either unsuitable or legally excluded from digitization. Librarians will provide enduring information service by adding value through manipulating text and defining relationships among objects.

Several practical articles address building collections of Internet or commercial resources or both. Kovacs and Elkordy present a lengthy but well-documented and thorough guide to developing and implementing a collection plan for a Web-based electronic library. They provide definitions, a literature review, and steps to create the plan, including a Web site evaluation matrix. Walters, Demas, Stewart, and Weintraub focus on collecting aggregations of Web resources. Along with standards for selection, the authors advocate cataloging the individual contents of the aggregation for access without assistance from a librarian. Weber's article delves further into evolving practices for cataloging electronic resources, beginning with a useful list of selection factors. She identifies decision points, such as determining what to catalog, adapting metadata and MARC to the item, selecting type and quantity of information to include in the record, and resolving the format and level of cataloging.

Building Sustainable Collections of Free Third-Party Web Resources was commissioned by the Digital Library Federation (DLF) to explore questions and recommend practices for adding Internet resources to library collections. Pitschmann argues that such collections can be planned best within the context of mainstream collection development guidelines and principles. He offers detailed sets of criteria for selection, access, content management, user support, and staffing for sustainability. Nisonger recognizes challenges in revising policy statements to include electronic resources. He recommends that updated collection policies include selection criteria for electronic formats and statements addressing such issues as duplication of formats, access, archiving, and preservation.

Stielow's Creating a Virtual Library: A How-To-Do-It Manual for Librarians is a conceptual bridge between the realm of print collection development and the organization of a completely digital library. The book provides a wealth of practical details for creating, maintaining, and managing a Web collection that can serve as a library. Alsmeyer and Smith describe the evolution from conventional library services to a networked collection at the British Telecommunications Labs, a special library in the United Kingdom. They chose to replace print journals with electronic access, a kind of integration that came later in university libraries. Their most important conclusion is that because the digital library effectively replaces the human mediator, its design must be well structured and organized.

The many articles published about electronic journals from 1997 through 2003 reflect the complex and stimulating issues that confront librarians, their organizations, and publishers. Some publications help the profession envision an all-electronic future. Montgomery describes the background and implementation of a project to purchase only electronic journals for the Drexel University Library. The purchase of electronic journal collections is more complex than a simple annual subscription. Besides the cost of journal aggregations, librarians must consider image quality, completeness of content, license requirements, reliability of use statistics, linking capabilities, availability of backfiles, cost basis, and choice of vendor, if more than one exists. Workflow now involves more of the library director's time, the services of a webmaster, numerous changes in technical services processes, and the addition of an electronic resources librarian. Given the large increase in access to numbers of titles, the cost per title is lower for electronic journals than for print. Users like the format. A two-year research project funded by the Mellon Foundation is comparing the provision of print and electronic journals in the University of California library system. Librarians are studying user behavior and attitudes, designing and testing procedures for selection and relocation, documenting costs and use, assessing institutional implications, and evaluating institutional archiving strategies.

A recurrent theme within the literature of electronic journals is how best to manage a hybrid collection of multiple formats. Gyeszly observes that costs will soon force librarians to choose between print and electronic formats. Ashcroft and Langdon investigated benefits of and barriers to purchasing electronic journals in university library collections in the United Kingdom and North America. They cite archiving and licensing as primary barriers to building electronic journal collections. Alan and Butkovitch identify several steps in the transition from print to electronic journal access, including the development of digital archiving systems such as LOCKSS (Lots of Copies Keep Stuff Safe), and the significance of data management systems for journal collections. Managing print journal collections in an environment where users prefer electronic formats is of growing importance. In a special issue of Against the Grain devoted to retention of print, McDonald presents considerations for making decisions about print retention—money, time, space, archival responsibilities, personnel needs, reputability, and restorability. Rowse describes factors affecting the ratio of print to electronic holdings in the hybrid collection with associated issues concerning duplication, storage, binding, and space costs.
Several pieces focus on developing electronic book collections. Ramirez and Gyeszly analyze netLibrary use data in subject categories and user turnaways to suggest subject areas and types of books that users prefer in electronic format. A 2002 publication synthesizes three surveys on the provision of e-books in United Kingdom academic libraries, concluding that there has been little use of netLibrary titles due to lack of perceived demand, ignorance of the potential qualities of e-books, licensing and economic models, and problems with bibliographic access. An increase in e-book publishing activity among independent publishers and aggregators may change this situation. A yearlong study of the use of netLibrary titles in the California State University Libraries included analysis of use statistics, number of turnaways, and user surveys to support a decision to triple the number of e-books in their collection.

As collection management practice expands to accommodate electronic resources, librarians welcome publications that contain principles, best practices, selection tools, and other guides for managing electronic collections. Metz connects past and future, observing that the primary responsibility of collection management is to match user needs with available content. Although the basic principles of collection development apply to electronic formats, additional factors of pricing, licensing, functionality, and archiving have particular significance. Jewell documents the practices of several research libraries with regard to selection, licensing, presentation, and support for use of commercial online materials, encouraging libraries to collaborate on developing systems to manage and present commercial products. The International Coalition of Library Consortia’s Statement of Current Perspective and Preferred Practices for the Selection and Purchase of Electronic Information offers a de facto standard in spite of the acknowledged rapidly changing technology and information environments. The document presents in outline format a brief description of problems and needs for the future followed by preferred practices with regard to contract negotiations, pricing, access, archiving, systems, licenses, content, management data, and authentication.

An article describing experiences at Brown University Library tells a nearly universal story of the influx of electronic resources at large academic libraries, touching on organizational structure, processes for decision making about resource allocations, leveraging funds allocated to journal subscriptions, cancellation of print, and negotiation with vendors about pricing. Colleagues who have experienced similar situations will sympathize with the authors’ conclusions about competition between print and electronic acquisitions, lack of sustainability, lack of archiving, and the staff time required to attend to all these issues. With a unique perspective on public libraries, Barreau describes twelve library systems in Maryland, the tasks they perform, and the sources they use for collection development. She identifies commonalities and differences in collection development processes, concluding that integrated library systems are playing a greater role in the ways selectors perform their tasks and in the sources they use. Terry’s paper provides a snapshot of professional opinion in the year 2000. She posed five questions to five librarians and one programmer/analyst about the ways technology affects product choices and changes in collection development practices. Top issues among respondents were the preference of users for electronic resources over print, the need for publishers to have more user-friendly license agreements, support for open access when it is economically viable, and a desire to know more about copyright.

From the theoretical to the practical, the extensive collection development literature on electronic resources clearly demonstrates that librarians are not only adapting collection-building methods to incorporate new formats, but are also creating a new vision for the meaning of collection.

Change in Scholarly Communications

Information technology advances and the proliferation of electronic resources have only begun their transformation of the scholarly communications system. Awareness of the dynamics and economics of scholarly publishing is an emerging trend in the research community, inevitably making its way into the library literature and into the general academic press as well. Bachrach maintains that publications resulting from projects funded with federal money should be in the public domain. Bergstrom, an economics professor who analyzed the price differential between journals published by commercial and scholarly society presses, determined that the high prices charged by commercial publishers have been draining resources away from universities. He provides evidence that the scholarly societies are publishing high-quality articles. Bergstrom recommends that faculty think twice before serving as reviewers and editors for overpriced journals. In an address at the 1999 Association of College and Research Libraries conference, Rosenzweig tells the story of reclaiming a journal in the life sciences from a commercial publisher.

The complex interaction among peer review, other manifestations of scholarly quality or intellectual prestige, publishing economics, and dissemination of research results for the common good have politicized relationships among scholars, librarians, and publishers. Libraries and their parent organizations are examining ways to strengthen ties with scholarly societies to sustain access to research information for the future. The Association for Research Libraries (ARL) has been a leader in stimulating the exploration of these issues. The ARL Office of Scholarly Communications Web
site and ARL's Bimonthly Report series provide a wealth of information about scholarly communications trends and events. In March 2000, ARL and the Merrill Advanced Studies Center of the University of Kansas sponsored a meeting in Tempe, Arizona, to engage academic stakeholders in a discussion about the scholarly publishing process and to build consensus on a set of principles for the future of scholarly publishing. Case provides background information as a context for what have come to be known as the Tempe Principles, quoting the principles in their entirety, and giving an explication of each. This article is a must read for every academic librarian and a logical starting place for collection development librarians who wish to keep their constituents informed about the evolution of scholarly publishing. An article and a monograph by Guédon trace the history and function of scientific journals from 1665, when professional societies controlled the intellectual property of scholarship, to the present, when much content is within the grip of commercial publishers. Guédon reports on library response to the current dilemma. Digital technology has the potential to change existing patterns, including such economic aspects as negotiation for access to electronic content. Scholarly societies will have to take a more dominant role in the evaluation process if they are to weaken the commercial publishers’ role. Guédon recommends that librarians embrace the Open Archives Initiative and negotiate long-term archiving of commercial journals.

Shulenburger, an economist and provost at the University of Kansas, has been an articulate and tireless spokesperson about the need to transform publishing if the academic community is to sustain its access to scholarly work. Fyffe and Shulenburger describe how BioOne, a digital collection of scholarly journals in the biological and ecological sciences, was conceived and established “in the belief that broad and enduring access to scholarly literature is essential not just to the health of the scientific enterprise, but also to the health of the wider society in which science is practiced.” They observe that the current model of profit-based journal publishing (where high prices restrict access) harms the interests of those who create and need the content. The BioOne business model supports scholarly societies by providing a digital service and dissemination of content at an affordable price, thus sustaining access to a wide community. Elsewhere, Edwards and Shulenburger provide many specifics about the commercial sector’s monopoly on scholarly publishing, describing how increases in journals’ prices have created a crisis in scholarly communications. Put in economic terms, commercial publishers understood the relative inelasticity of both supply and demand of scholarly content, acquired top-quality journals, and then dramatically raised prices. The authors elaborate on several partial solutions to the problem, but conclude that copyright ownership is the key to a system in which scholarly work is available for the common good. They advocate the creation of a federal law that would require any communication arising from publicly funded research to be placed by the publisher in a freely accessible electronic archive shortly (six months or so) after publication in a scholarly journal. Prosser also advocates open access to scholarly information, but proposes a slightly different route. He envisions a transitional hybrid journal with different pricing models at the article level. Acknowledging that scholars want to disseminate their work widely and that there are expenses with journal publication, Prosser proposes that authors have an option to pay a fee to publish their work once it has cleared the peer review process.

The Scholarly Publishing and Academic Resources Coalition (SPARC) (www.arl.org/sparc) is pursuing strategies to foster competition in scholarly publishing and to promote open access. SPARC published a brochure, Create Change, for adaptation and use in disseminating information locally about scholarly communications issues. A special issue of the ARL Bimonthly Report features an article by Case and Adler about open access. The authors define the Budapest Open Access Initiative:

Open access is generally understood to mean free availability of literature on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself.

One way to promote open access is for universities to develop digital institutional repositories that assure the availability of published research for the common good. Crow defines institutional repositories as “digital collections that capture and preserve the intellectual output of university communities.” He examines institutional repositories from these perspectives and considers their role and impact in the scholarly communications process. Institutional repositories offer the potential to transform the distribution of scholarly communications in a way that separates components of the current structure. For example, scholarly societies could provide peer review while the university manages publication. Such repositories would be “tangible indicators of an institution’s quality.” Lynch defines institutional repositories as a set of services that a university offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members... essentially an organizational commitment to the stewardship of these digital materials, including...
long-term preservation where appropriate, as well as organization and access or distribution.  

He discusses the strategic importance of institutional repositories and offers some cautions about development strategies. Atkinson describes a model for scholarly communication in the digital environment in which all academic institutions support open access to the intellectual capital of their faculty. Faculty would submit their work to a trusted group of scholars in their discipline for peer review, and the academic library community would assure open access to the work in perpetuity. Usage statistics might convince faculty that expanded access provides more visibility for their work than traditional publication in prestigious journals.

The increasingly complex world of scholarly publishing poses new ethical dilemmas for librarians and scholars. Frazier wrote an extended essay on professional ethics in the digital world, using recent examples such as the lawsuit by publisher Gordon and Breach against Henry H. Barschall, the attempt by the editorial board of The History of European Ideas to transfer their journal away from a commercial publisher, and various efforts to limit interlibrary lending in license agreements for electronic products.

Building Digital Collections

Evolving relationships among libraries, scholars, and publishing communities discussed in the previous section, along with capabilities in a networked environment, naturally offer new opportunities for librarians to apply the values of their profession to the creation of new knowledge. Libraries are expanding their roles to encompass some publishing activities that traditionally were reserved for university presses, scholarly societies, and the commercial sector. The collection development literature contains several examples of librarians building digital collections. After years of experience in selecting and managing commercially produced electronic resources, librarians also are selecting materials for digitization and creating production operations. Such efforts often began as special projects in special collections, but are moving into the collection development mainstream.

One of the earliest works about selecting materials to digitize was written by three Harvard University librarians, Hazen, Horrell, and Merrill-Oldham. Their excellent guide is still relevant for librarians making decisions about priorities for digitization. The monograph includes a section on cost/benefit analysis and a decision-making matrix to ensure that the products will be of enduring value to libraries, students, and scholars. Brancolini applied the Harvard Model to a digitization project at Indiana University. She finds the process more applicable to planning than selection, because implementation requires both a simpler and more complex version with a graphical flowchart representation. Demas explores criteria, methods, and processes for deciding which parts of the print universe will be converted to digital format for preservation and access. Among his selection criteria are use, condition, and local priorities. He recommends that projects focus on great collections rather than on everything in a subject category, and on specific genres of material. DeStefano explores other rationales for making selections. She rejects the criteria that have been used conventionally to select materials for preservation—subject area, physical condition, date range—in favor of materials that have high use. This approach would probably appeal to large numbers of library users, and it also targets materials that may have suffered considerable physical dilapidation. Since titles with these characteristics are often duplicated in many library collections, this strategy suggests opportunities for collaboration.

Affiliated with the Council on Library and Information Resources, DLF is a group of libraries leading the development of standards and best practices to extend digital collections and services. Greenstein surveyed DLF members to identify key challenges for the future, since definitions of the digital library are still in their infancy. Architecture and systems, standards and best practices, collection development, penetrating and mobilizing user communities, and preservation or creating long-term access to digital information were identified as the most significant areas in need of development. In another report, Smith documents examples of the many projects based on rare and special collections. She recommends that research libraries refocus priorities to select important holdings from their general collections for digitization.

The Digital Library: A Biography by Greenstein and Thorin describes the maturation process of digital libraries in a readable and entertaining style. Many have moved from initial project-based efforts (the University of Michigan dubbed a research laboratory the “Skunk Works,” where staff could both experiment and gain experience) to more mature programs integrated with other library units as core service elements.

Cooperative Collection Development

Cooperative collection development has taken on new vitality in the digital age. Published literature on cooperative collection development abounds. Although publications from 1997 to 2003 reflect mixed opinions about the costs and benefits of collaboration, the networked environment has permitted libraries to share electronic resources through consortial agreements without having to compromise access. Developments in the scholarly communications arena have reinforced appreciation that a single library will never build...
a fully comprehensive collection. Cooperative collection development has become an accepted component of collection building, even though writers continue to question whether the benefits are worth the costs.

A good literature review and summary of cooperative collection development in academic libraries appears in Porter’s unpublished dissertation. She compares three networks as case studies of the essential elements for effective resource sharing—bibliographic access, physical access, and coordinated collection development.74 Evans takes a somewhat pessimistic view, suggesting that the barriers will likely overpower the benefits.75 Shreeves asks, “Is there a future for cooperative collection development in the digital age?” and suggests that the most likely resource to be shared in the future is librarians’ expertise.76 Hazen describes conditions for cooperative success: opportunity, visionary and committed leaders, supportive organizational structures, staff participation, bibliographic and physical accessibility to collections, outside funding, and previous successful experience with cooperation.77 The context for his discussion is a project cosponsored by the Association of American Universities (AAU) and ARL to enlarge the national collection of Latin American studies collections. Allen explores several factors driving change in the collection development landscape: societal attitudes toward higher education, increasing budget and service pressures, intellectual property issues, preservation, and archiving.78 She sees collaboration among multitype libraries as a way to improve information access during a period of metamorphosis. Brainerd’s brief history of collection development concludes with the prediction that the changing structure of scholarly communications, access to global collections, and creation of document delivery centers will converge, shifting librarians’ attention from building local collections to providing local access.79

In the late 1980s and early 1990s, a convergence of technological development, weakened purchasing power, and organizational change contributed to a resurgence of library consortia. Potter notes a trend among consortia to address common needs beyond sharing physical resources, particularly access to commercial databases.80 Electronic resource sharing enabled libraries to expand their collections vastly by pooling purchasing power. Mahoney describes electronic resource sharing in community colleges through networks in Florida (Florida Distance Library Network), Wisconsin (BadgerLink, WISCAT), Texas (TexShare), and Louisiana (Louisiana Online University Information System, Louisiana Library Network).81

Technology also has enabled other types of electronic collaboration, such as sharing of approval plans. Wicks, Bartolo, and Swords describe a project among Kent State University Libraries, Kent State School of Library and Information Science, and Yankee Book Peddler (YBP) as the library prepared to participate in OhioLINK’s statewide approval plan experiment with YBP.82 This article makes a nice companion piece to the Gammon and Zeoli paper that describes the project at the macro level.83 Another collaborative approval project sought to involve a third partner (Swarthmore College) in a shared approval plan that had been in existence for thirty years between Bryn Mawr and Haverford Colleges.84 The author describes the existing plan and a proposed new process that would keep duplication to a minimum among all three libraries.

Introducing the Information Technology and Libraries special issue on library consortia, Helmer acknowledges that “library consortia are undeniably hot, and new consortia seem constantly to be forming.”85 Characterizing survival as the driving force behind the development and expansion of library consortia, Allen and Hirshon explore emerging models for consortial operation. These include the loosely knit federation at the local or regional level, the multitype/multistate network, and the centrally funded statewide consortium.86 Weingand’s image of the library as a “node in a global information network and a window to the world of information” has become increasingly feasible as library consortia flourish.87 OhioLINK typifies a thriving statewide consortium, the subject of numerous articles. A ten-year retrospective article contains a useful summary of OhioLINK’s genesis, growth, and plans for expansion.88 The Washington Library Consortium (WLC) of seven libraries in the D.C. area combines a union catalog and cooperative purchasing in an integrated approach that shares book collections, a library automation system with online union catalog and several electronic resources, an offsite storage facility, and a separately staffed administrative group.89 Among WLC’s secrets for success are geographic proximity, face-to-face meetings, long-standing relationships, and an infrastructure with the mechanics to assure that member investments are secure, contributions recognized, and service needs met. On a larger scale, the Illinois Library Computer Systems Organization (ILSCO) offers a similar breadth of service to the WLC, but with a larger constituency of forty-five participants. Sloan uses ILSCO as a case study for testing assumptions about resource sharing such as: (1) Do smaller libraries raid the collections of larger libraries? (2) Are smaller libraries deluged by requests from larger libraries? and (3) How does volume of resource sharing compare to other factors such as library holdings?90

The expansion of electronic access and the continued need to house print resources within finite library space has stimulated collaboration in the development of print archives. Bridgegam describes advantages and disadvantages of a depository collection shared and administered by Amherst College, Hampshire College, Mount Holyoke College, Smith College, and the University of Massachusetts, at Amherst.91 This is an example of the regional production center that Brainerd envisioned in his 1998 article. The Five-College collaborative storage plan calls for deaccessioning duplicates among the...
libraries with single copies held by the depository. The case study generalizes to the larger community as libraries consider the extent to which they provide access to materials not owned and as they decide which materials must be preserved for future generations.

Kisling, Haas, and Cenzer advocate print repositories with archival copies to reduce dependence on publishers and stimulate the development of last copy policies. License negotiation should include a provision for paper or microform archival copies. Payne views library storage facilities as a catalyst for developing comprehensive collection management strategies that include ongoing review of the collection. The storage facility represents an additional stage in the life cycle of the library’s collections. Four liberal arts college libraries in Ohio received funding in 2001 to create a shared storage service that included personnel and collection analysis. A companion article describes the collection assessment process followed by the participants. Peters describes collaborative print retention pilot projects among the Committee on Institutional Cooperation, Center for Research Libraries, and the University of California system, noting that the challenge is to manage a large body of printed information of declining value to the user population.

Global collaboration has held long-standing appeal for research librarians, and today’s networked environment holds more promise than ever to achieve goals for creating access to specialized and obscure publications of potential value to researchers. The Farmington Plan, often cited both as an unsuccessful global cooperative collection development venture and a visionary endeavor that simply lacked effective marketing, is now thoroughly documented and analyzed in Wagner’s expansion of his doctoral dissertation. Organized by ARL, the Farmington Plan sought to acquire globally and cooperatively all scholarly works—to create a national scholarly collection. The work provides a fascinating and readable account of a landmark effort in library cooperation. In a sense, the AAU/ARL Global Resources Program continues the mission of the Farmington Plan. Case and Jakubs describe the events and trends leading to the creation of the Global Resources Program (now called the Global Resources Network). Its goal is to expand access to international resources using available technology. Areas of focus include Latin America, Japan, Germany, South Asia, Southeast Asia, and Africa. The framework for this project has the potential to serve as a model in other collection areas.

**Organization, Training, and Professional Development**

The radical changes that have taken place in the information environment have affected the way collection development is organized and managed in libraries. Many of the changes in collection development organization are related to the shift to flatter organizational models in libraries in general. Jakubs points out as early as 1999 that the traditional structures for academic library organization (public services, technical services, and collection development) are clearly inadequate, given the hybrid character of the work bibliographers do in an electronic environment. A flatter, more service-oriented library organization is outlined by Stoffle, Fore, and Allen, describing the reorganization of the University of Arizona library. While novel at the time the article was written, elements of the team-based organizational model have since been adopted in many academic libraries. Biery points out that most of the published literature on team-based organization is written from an administrative viewpoint. Her paper describes an experiment in team-based collection development at the University of Nevada Las Vegas Libraries from the viewpoint of a participant, including some issues (such as personality conflicts) usually omitted from such accounts.

Surprisingly little literature has been published on how to train collection development librarians to work effectively in the present environment. Blake and Surprenant call for more intensive and wide-ranging education in collection development issues than the present library and information science curriculum provides, as well as extensive professional development support for practitioners. Much training is provided in-house and on the job. Forte et al. describe an exceptionally well-organized training initiative at the University of California, Santa Barbara library. The authors recommend that training and orientation need to be ongoing efforts if collection managers are to keep current.

**Collection Assessment and Evaluation**

Empirical measures of the adequacy of collections, services, or a bibliographer’s performance seem to be of perpetual interest in the literature. A single method will not answer all questions, and new works on evaluation technique will usually find an audience. Remarkably, only four papers on the Conspectus, one of the best-known assessment tools, appeared during this period, and one of those questioned its utility in a digital environment. Clayton and Gorman call for a revision of the Conspectus to make it resource access focused, rather than merely collection-focused. Attention seems to be focused less on description of collections than on smaller-scale studies designed to answer specific local questions. Grover titled his paper “Large Scale Collection Assessment,” but the project he describes used the North American Title Count to verify whether collecting levels in a specific area (foreign languages) were appropriate for an individual library. The Reference and User Services Association (RUSA) published a bibliography in 1999 of
assessment and evaluation methods, while the Association for Library Collections and Technical Services (ALCTS) brought out a work by Biblarz, Bosch, and Sugnet in 2001 as part of its Collection Management and Development Guides series. The two works can be used to supplement one another, since the first is a bibliography and the second a planning guide for designing projects.

Since journals are a high-cost center in most libraries, several studies appeared aimed at finding ways to measure their utility to a local library community. Black's 1997 paper describes a project undertaken at a liberal arts college where the journal collection is chosen to provide curriculum support for undergraduates. Black's goal was to design a simple, low-cost analysis method based on reshelving counts. This is a far different scholarly community from that described in Lascar and Mendelsohn's paper on journal use by structural biologists, and their methodology is correspondingly more complex. Citation analysis is a popular method of assessing the adequacy of local journal collections, although papers describing other methods also were published during this period. For example, Dilevko and Atkinson discuss methods of evaluating journals without impact factors in ISI's Journal Citation Reports. Johnson uses citation analysis as a method of assessing a library's ability to support a new program, as well as to guide future collection decisions. The search for reliable ways to develop core journal lists continues. Black's 2001 paper describes a project in which citation analysis was used to establish a core journal list for communications disorders and serves as a good, brief introduction to the methodology. Kushkowski, Gerhard, and Dobson discuss a method of developing such lists in interdisciplinary fields. Corby reviews the literature published on core lists in an effort to identify sound practices and methodology. Her use of the term "alchemy" in the title of her paper illustrates the inevitable degree of subjectivity involved in creation of such lists, and she also discusses the pitfalls inherent in the approach.

The literature on evaluation of monograph collections is less extensive. Kushkowski asked faculty members to rank one hundred subject areas in business administration based on importance to their programs of study and discusses the implications of the results for supporting book selection. Anderson et al. describe the results of an innovative program at Purdue University Libraries. When books were requested from interlibrary loan, the requested title was purchased rather than borrowed. Kraemer discusses a pilot project to identify a reliable way to extract use data for monograph circulation. He is cautious about too much reliance on circulation data to justify changes in collecting policy for monographs, but finds the information useful for identifying weaknesses in collecting patterns.

Since the literature contains remarkably little on collection evaluation for public libraries, a paper by Senkevitch and Sweetland on adult fiction collections is especially interesting and useful. The authors use the OCLC database to identify a core list of adult fiction and found it to be surprisingly stable over time.

Studies of ways to measure the costs and benefits of electronic information sources have been slow to appear, perhaps because of the difficulty in deciding what is to be measured and how. At the first Aberdeen Woods Conference (a meeting cosponsored by the Center for Research Libraries and ARL), a Working Group on Quantitative Evaluation Tools for Cooperative Collection Development was formed and charged with development of appropriate metrics and methodologies. The group presented a report at the second conference and is now seeking participants to test an assessment toolkit. Whisler et al. produced an early work on evaluating full-text databases for depth of coverage and overlap. Bleic, Fiscella, and Wiberley examine vendor data as a source of information on usage of Web-based resources. Given the comparative ease of extracting use data from online sources, one hopes that more research will fill this gap in the literature in the near future.

**Weeding and Storage**

Weeding and storage are unglamorous, but necessary, functions in collection development. Whether the availability of electronic formats will make retention and relegation decisions easier or more complex remains to be seen.

Stanley Slote brought out a fourth edition of his standard work on library weeding in 1997. Williams summarizes practices and decision-making criteria current as of 1999. Banks describes a circulation study undertaken as part of a general weeding program. She infers that increasing use of electronic resources is cutting into circulation of printed books, although many other variables also affect circulation, including the level at which the book is shelved. Remote storage, the alternative to weeding often preferred for research collections, is no longer controversial—the issue is no longer whether libraries should move books into storage facilities, but rather how to select books appropriately. Hazen's article on selection for storage gives a good overview of the issues to consider in making appropriate (and politically defensible) storage decisions. Ackerson studied citations to physics literature by chemistry faculty; her results challenge previous findings that scientists are more likely to cite older research when referring to literature outside their main field. Ackerson found no relation between use and age and concluded that it is unnecessary to defer sending older journals to storage to accommodate researchers in secondary fields. Altmann and Gormon explore the advantages and disadvantages of density of use as a decision-making criterion in determining
what journal runs to eliminate or store.\textsuperscript{127} Austin tackles the politically touchy issue of how to set numerical goals for numbers of volumes to be transferred to storage and describes an objective methodology for doing so.\textsuperscript{128}

In an important article in *Library Trends*, Jaguszewski and Probst explore questions of journal cancellation and storage in integrated collections of both print and electronic resources.\textsuperscript{129} Decisions about cancellation and storage of collections must now include interface quality, licensing considerations, and the availability of alternate vendors. The authors describe criteria for making retention, cancellation, and storage decisions in an environment where electronic resources are becoming increasingly available, yet resource budgets and storage space are limited.

### Subject-Specific Collection Development

In keeping with the applied character of most collection development literature, the period from 1997 to 2003 saw publication of many articles intended to provide practical guidance for bibliographers. Many of these titles described how to build collections in specific subjects or formats or provided counsel on working with particular client groups. Articles concerning collection building in the humanities and in interdisciplinary subjects were most common. A new edition of Blazek and Aversa’s *The Humanities: A Selective Guide to Information Resources* appeared in 2000.\textsuperscript{130}

Foreign language collection building is an area with an extensive support literature. Gutierrez-Witt, Astroff, and Martin all published papers designed to advise selectors working with a limited knowledge of Spanish.\textsuperscript{131} Allen discusses building a collection of contemporary German literature using a list of modern authors.\textsuperscript{132} Cooperative efforts to build foreign language collections were described by Holzner, Filstrup et al., Nye and Magier, and Schaffner.\textsuperscript{133} The papers describe creative ways in which libraries use collaboration to leverage scarce resources in Slavic and South Asian languages, fields in which local expertise is often rare.

Growing interest in diversity as a professional obligation has led to several explorations of collection building in literatures serving special client populations. Kranich examines the role of libraries in the collection of alternatives to mainstream media, while Rothbauer and McKechnie examine how reviewing media treat gay and lesbian fiction for young adult readers.\textsuperscript{134} Lee’s paper on women’s studies at Rutgers University and Warner’s on “Moving Beyond Whiteness in North American Academic Libraries” call into question some basic assumptions about collection development.\textsuperscript{135} Both authors question whether objectivity is possible or even desirable in fields outside the academic mainstream, since “objective” criteria for selection usually privilege majority groups and interests at the expense of minorities.

Most of these papers assume essential continuity in the methods and criteria of collection development, even when they argue for changes in emphasis or a broader view of subject matter. Case, on the other hand, directly challenges the adequacy of traditional criteria and policies to guide the selection of electronic texts for the humanities.\textsuperscript{136} Case is one of the few authors to assert that the advent and adoption of electronic formats must fundamentally change how collection development librarians approach their work.

### Conclusion

In a digital world, libraries and universities can be publishers, scholars can build libraries on their Web sites, and vendors can be archivists. Traditional collection management values may soon reach a digital wall that challenges the definition of collection, along with assumptions about collection building. The digital environment demands new approaches to collecting for future generations. Librarians already grapple with balancing collection services for present and future clientele. Determining responsibility for digital archiving is essential to creating an information legacy for future generations. Will libraries find a way to gain control of electronic archives, or will we rely on publishers or networks to assume this role? Rising expectations for immediate and portable access to content compel librarians to consider links between finding tools and collection content early in the selection process. Those who have written about impending change in the collections environment give practitioners a foundation for innovation.

The literature of collection development and management is primarily applied, reflecting the pragmatic nature of authors and readers. Publications on organization, training, professional development, management of print collections, and subject-oriented collection development from 1997 to 2003 generally indicate reliance on traditional skills and knowledge, even though practitioners are applying practical approaches to new formats and types of media. Several issues that dominated the library literature a few years ago, such as the serials crisis, finance and budgeting, and licensing, have not been resolved or forgotten, but have taken backstage to other topics, particularly those that embrace the digital age.

The past seven years have witnessed publication of more theoretical commentary on fundamental changes emanating from an increasingly networked environment. Authors who explore the implications of collection building in the digital age challenge readers to imagine a vastly different future for collection development practice. Themes covered in the early sections of this review—electronic resource development, creation of digital collections, scholarly communications, and collaborative collection development—reflect the
increasingly digital domain of the profession. May the next LRTS review cover a shorter time period, because the collection management landscape promises further transformation, expansion, and complexity.

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**Preservation Assessment: Understanding Problems and Developing Real Solutions**

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