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# Developing a Concept of Collection for the Digital Age

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## Developing a Concept of Collection for the Digital Age

Mary Casserly

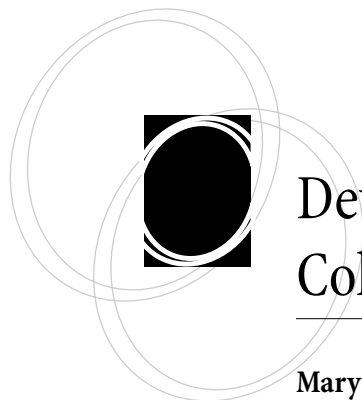
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# Developing a Concept of Collection for the Digital Age

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Mary Frances Casserly

**abstract:** The author describes how the concept of collection, reflecting the profession's principles, values, and practices as they pertained to print-based (analog) information resources, developed in the pre-World Wide Web environment. She poses five questions related to goals and practices in the analog environment to help libraries develop a concept of the hybrid collection.

In the last decade, many aspects of library operations have been analyzed in light of the challenges presented by digital resources and the Internet. Collection management has received such attention both in the literature and at professional conferences. Much of this has focused on the changes in practices and procedures that will be needed to develop and support hybrid collections that will include digital as well as analog (i.e. print-based) information resources. However, little has been written about how academic libraries can develop the theoretical constructs that will inform these practices and procedures. As Hur-Li Lee notes in her exploration of what constitutes a collection, "a useful concept of collection will not only help librarians refocus their collection efforts but also provide others with valuable guidelines for designing new information services."<sup>1</sup> The purpose of this paper is to discuss the evolution and definition of the concept of the library collection and to begin to examine how libraries can work toward shaping that concept for the digital age.

## The Analog Collection

"Concept" is defined as "a general idea or understanding, especially one derived from specific instances or occurrences," and as "an idea that includes all that is characteristically associated with or suggested by a term."<sup>2</sup> The concept of library collection extends well beyond its technical definition of "the total accumulation of materials provided by a library for its target group."<sup>3</sup> It is the abstract idea of collection—philosophy, purpose, scope and boundaries—that, as practitioners, we share with other members of the library profession. Our concept of the analog collection, particularly in the

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United States, has its roots in a history of printing and bookselling that originated in the colonies and in a tradition of private collecting that later led to the establishment of many of our most prestigious academic and public libraries.<sup>4</sup> It is further derived from our training and experience and is informed by the professional literature of materials selection and evaluation, policy development, and library administration, as well as by library practice.

### Selection and Evaluation

Scores of collection development texts and manuals have appeared since the first such works were published in the 1930s. Prominent authors include Frances K. W. Drury, Helen Haines, S. R. Ranganathan, Robert N. Broadus, William Katz, Arthur Curley and Dorothy Broderick, David Spiller, and Mary Duncan Carter, Rosemary Magrill and Wallace John Bonk.<sup>5</sup> Some of these texts offer perspectives on only one type of library, while others compare and contrast collection development practice across library types. This literature provides background information on publishing and acquisition practices in libraries, offers a philosophy of selection, and describes criteria to be applied to selection decisions for various material formats and subject areas. It contributes to our understanding of the concept of collection by identifying and explicating both the philosophical principles that underpin the library collection and the criteria that address collection quality.

### Collection Policies

To some extent the literature of collection development policies and that of materials selection and evaluation overlap. Both stress the importance of understanding the collection's audience and of building collections that address its needs. For academic libraries the purpose of the collection is widely understood to be that of supporting the curriculum and research of the parent institution. Since the 1970s, authors, including LeRoy Charles Merritt, have emphasized the need not only to understand the library collection's purpose but also to document it as a collection policy.<sup>6</sup> Elizabeth Futas and Richard T. Wood and Frank Hoffman published handbooks of such policies to be used as models.<sup>7</sup> *A Guide for Written Collection Policy Statements*, issued by the American Library Association in 1989 and revised in 1996, further underscores the need for clearly defined academic library collection policies and the importance of communication and

the community context to collection building efforts.<sup>8</sup>

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### Management

Over the past several decades the literature of library management has documented and directed important changes in how libraries approach collection-related responsibilities. Collec-

tion development emerged as a specialization within librarianship in the 1950s and 1960s as a result of the need to shift responsibility for selecting books and journals from

faculty to librarians. The initial focus was on selection and comprehensive collection building. By the mid-1970s declining library budgets caused librarians to take a broader view of the collection development process and the term “collection management” was coined to reflect expanded roles and responsibilities. Defined as “the systemic, efficient and economic stewardship of library resources,”<sup>9</sup> collection management included budgeting, collection evaluation, preservation, cooperative collection development activities, needs assessment, and policy development.<sup>10</sup> In the literature of collection management these library functions are described and studied for the purposes of simultaneously improving organizational efficiency and enhancing, or at least maintaining, collection quality and access. While the literature of policy development informs our concept of collection by communicating the importance of audience and community context, the collection management literature does so by furthering our understanding of the collection within its organizational context.

### Practice

Library practice, or how we apply the principles of selection, evaluation, and policy development, and operationalize the “systemic efficient and economic stewardship of library resources,” also contributes to our concept of the analog collection. The strategies we employ to enhance collection effectiveness, solve collection management problems and address organizational needs are some of the “specific instances or occurrences” from which our concept of collection has derived. After decades of experience building analog collections, library practice is solidly grounded in, and reflects the importance of, the properties and characteristics of these types of materials. Among the most important of these are ownership, place, control, and permanence.

*Ownership.* In the pre-World Wide Web environment, ownership, place, and control were important determinants of the academic library collection’s scope. Ownership formed the basis of library business relationships with publishers and other vendors of library materials. Libraries bought information resources for their collections. Publishers with alternative marketing strategies, such as those who sought to lease business resources, faced strong resistance to, and sometimes non-compliance with, instructions to return their materials at the end of a

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designated time period. Ownership was also the basis of the library’s relationship with its users. Although exceptions were sometimes made for special collections materials, in the pre-World Wide Web environment, library catalogs presented users with only those resources for which the library assumed responsibility through ownership. When financial incentives paved the way for system-wide union catalogs in the late 1980s, academic libraries initially balked at the idea of an OPAC that displayed other libraries’ holdings along with their own. Although such union catalogs eventually became commonplace, many libraries continue to resist the idea of adding the holdings of campus departmental libraries, museums, and resource centers to their OPACs.

*Place.* When we consider the library as place, we are often referring to its figurative identity as the heart of the campus. However, from the perspective of collection management, the library as place is the library as storehouse. The function of providing a central location in which to house materials is a key component in facilitating access to analog materials. In practice, information resources that did not, or could not, reside in the storehouse were not regarded as part of the academic library collection. The concept of library collection in the analog world was proscribed by geography and proximity, and many plans to share collection costs for esoteric and expensive materials among research libraries were foiled by the importance of place.

*Control.* Place and ownership were traditionally necessary, but not sufficient, for an analog information resource to be included in the collection. The resources librarians ultimately added to their collections were also controllable. Library practice reflects the need to control collection inventory, quality, and stability.

Control of inventory is most closely related to place and ownership because it goes to the physicality of the information resource. In the pre-World Wide Web environment, library collections consisted exclusively of items that could be counted, labeled, housed, and tracked. Materials that were difficult to inventory, such as realia, pamphlets, and brochures, were slow to be incorporated into our collections, only marginally included as unprocessed items, or deemed to be out of collection scope. Particularly important materials in problematic formats were sometimes re-formatted or relegated to the special collections stacks where they could be given the required attention and oversight.

The need to control content quality is one of the most important determinants of collection management practice. Bibliographers use an array of evaluative criteria to judge the merit of the materials available for acquisition. One of the ways content quality is assured is by acquiring materials that are edited and securely packaged or, in other words, published. These materials are already vetted, albeit to varying degrees, before they come to the attention of collection developers. Further, most of the techniques bibliographers use to select materials are publisher-based. Publishers distribute catalogues of their titles and approval plan vendors supply books and notification slips according to profiles that combine subject and publisher criteria.

The third aspect of control is content stability. Collection developers acquire materials that are finished products. The content of analog library materials is fixed in time and permanent. Libraries may occasionally tip-in errata sheets, but they do not welcome revisions, updates, or customizations to the materials in their collections. They frown upon marginalia and rarely acquire materials, such as workbooks, that invite alterations or additions to their content. It is also common practice for libraries to de-commission features of nonprint formats (such as audiocassettes and computer software) that enable their content to be altered.

*Permanence.* Permanence is a property of analog information resources that derives from ownership, place, and control. Resources that libraries own, store in their facilities, and control have the potential to be permanent and, therefore, to have lasting value. Permanence is also a goal that pertains to the collection as a whole.

In addition to addressing the immediate demands of the present generation of students and faculty, research libraries are expected to meet anticipated needs of future



scholars. This long-range view is operationalized by practices—both within the library and university-wide—that maximize collection breadth, depth, and size. Library services, such as reserve collections and photocopying, assist in this goal by reducing the need for duplicate copies of popular, heavily used materials and thereby enabling the acquisition of a broader range of unique materials that are intended to remain in the collection permanently. Traditional library measures of quality emphasize numbers of volumes and serials subscriptions and are closely scrutinized by both library and campus administrators. Librarians spend significant time and money on maintaining and expanding facilities to house their growing collections and on preserving both information content and artifacts, while academic administrators often respect and preserve collection size by holding library materials budgets harmless during campus-wide budget cuts.

### “Collection” in the Digital Age

Few academic libraries claim to either be, or aspire to be, digital libraries. Of course librarians acknowledge the increasing importance of, and reliance on, digital resources, but “a pragmatic view of the future of libraries” is one in which the collection is a hybrid, that is, a mix of analog and digital resources.<sup>11</sup> While as previously described, libraries have extensive expertise in building print-based collections, digital resources pose many challenges. In order to “collect” them libraries must lease rather than purchase, access rather than house, and develop ways of evaluating, describing, and maintaining the accessibility of dynamic content. Additional challenges come from pricing structures that require cooperative selection and purchasing, complicated state- or system-level funding “opportunities” that may be accompanied by unfunded mandates, users’ unrealistic expectations, and a wide array of new products and approaches to packaging and aggregating scholarly content. As libraries gain more experience in developing collections that include digital resources, the professional literature of collection management has begun to reflect the reality of the hybrid collection.

A number of authors have addressed the need to translate the profession’s principles related to selection and purpose into the digital environment. Articles by Carolyn Caywood and Gregory F. Pratt, Patrick Flannery, and Cassandra L.D. Perkins outline criteria for selecting Internet resources.<sup>12</sup> Diane Kovacs’ *Building Electronic Library Collections* provides selection criteria for the e-library, “a Web-published collection of Web-based resources.”<sup>13</sup> In recent DLF/CLIR reports, Louis A. Pitschmann outlines criteria for selecting free third-party web resources and Timothy Jewell identifies selection guidelines typically used for commercially available electronic resources.<sup>14</sup> Likewise, selection criteria for electronic journals have been published in paper format and on library web pages.<sup>15</sup> Finally, authors such as Peggy Johnson and Kristin D. Vogel have addressed the need for, and benefits of, collection development policies for all types of electronic resources.<sup>16</sup>

The importance of the digital environment and its effect on the library’s collection-related functions is also recognized in the professional management and administration literature. Ross Atkinson explored the role of collection management in the digital environment and concluded that the “creative skills and knowledge of collection man-

agement—the ability to change the relationships to objects, by adding value to (or deleting value from) objects already selected—will remain a fundamental information service.”<sup>17</sup> Others suggest that “collection management” no longer effectively describes the activities that will be required in the hybrid environment. Joseph J. Branin offers “knowledge management” as a more appropriate description of how libraries will deal with new information formats and new organizational structures, while Bart M. Harloe and John M. Budd suggest that “content management” more accurately describes the role of the professional in the hybrid collection environment.<sup>18</sup>

The professional literature has begun to contribute to our concept of the hybrid collection by exploring how our collection-related philosophies and purposes apply to digital resources. However, since academic libraries continue to be dominated, both physically and psychologically, by their print resources, the role of library practice in the development of this concept is more problematic. Most libraries select and manage digital formats within their existing organizational structures and in many these tasks are considered, by both management and staff, to be add-ons to existing responsibilities for analog materials. In these environments, practices grounded in characteristics, properties, and perspectives, such as ownership, place, control and permanence, which clearly do not pertain to digital resources, continue to define the concept of collection.

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In order to facilitate the transformation of their collections from analog to hybrid, academic librarians need to develop a concept of collection that will inform practice rather than be dictated by it. The following five questions address issues raised by examining library collection-related goals and practice in the

analog environment and may serve to guide local discussion useful to developing a concept of the hybrid collection.

**1. What are appropriate and useful metaphors for your “library” and “collection” in the digital age?**

Figurative language can contribute to our ability to create, or change, reality. The traditional metaphors of the library as a storehouse and the collection as the assemblage residing within it are too bound to the notions of place and control to be appropriate for the hybrid collection. Authors have suggested that in the future the library will be considered an “interface,”<sup>19</sup> “logical gateway,”<sup>20</sup> “information commons,”<sup>21</sup> or “gateway library.”<sup>22</sup> Peter Brophy suggests “information population” as a substitute for “collection.” He defines a library’s “information population” as those sources it selects from the information universe, “the sum total of recorded information that exists in the world... and that is potentially available.”<sup>23</sup> In reorienting library staff to the concept of the hybrid collection, it may be useful to employ metaphors that reflect both the variety and mix of analog and digital resources to be included in it, as well as the dynamism of information in the digital environment. Such metaphors may also resonate with faculty





and administrators, and may be useful as librarians work to revise the academy's perspectives on library operations, services and needs.

## **2. How will your library achieve effectiveness as it builds and manages the hybrid collection?**

An important aspect of effectiveness is a library's ability to build collections and services that minimize recall and maximize precision for its constituents. Current practice is designed to do so for analog materials. Achieving the same, or higher, degree of accessibility for the hybrid collection will require continuing to manage analog materials, while adding and deleting dynamic digital resources and modifying their descriptions as they change location, content, and relevance. Traditional approaches to staffing and budget allocation do not provide the flexibility and speed that libraries will need to build and manage the hybrid collection effectively, nor do they necessarily reflect the relative importance of digital resources to end users. Further, libraries must develop an understanding of the relationships among collection size, rate of growth, quality, and effectiveness.

Since 1999, the members of the Association of Research Libraries have been working to identify the factors related to library quality and exploring ways of measuring them. The development of LibQUAL+, an assessment tool that measures user perspectives on various aspects of library service quality, is a result of these efforts. LibQUAL+ recognizes the need to focus assessment toward impact and outcomes and away from input measures, including collection size and growth.<sup>24</sup> As the library profession adopts a more holistic approach to quality assessment, the concept of the hybrid collection will have to acknowledge that the traditional, and widely accepted, correlation between analog collection size and quality may not be as strong in the digital environment.

## **3. How will your library define efficiency in acquiring and managing the hybrid collection?**

Several decades of escalating material and personnel costs have required that all library managers focus on improving efficiency. Collection managers have worked with their materials and services vendors to streamline processes and services. The result has been the reduction in the amount of staff time spent on selecting, ordering, and processing analog library materials. However, as we incorporate the more dynamic and volatile digital resources into both our collections and our workflows, we will need to reconsider not only our approaches to selection and processing but also the relative fiscal and staff resources we devote to them. Today's budgeting and staffing patterns are designed to accommodate collection maintenance costs that are driven by monographic materials.<sup>25</sup> These, as well as current models of organization for reducing redundancy and repetition, may not pertain in the hybrid collection environment.

In his study of how research libraries select and present commercially available electronic resources, Timothy Jewell found that many libraries have appointed coordinators and created broad-based oversight/coordination committee structures.<sup>26</sup> Texas Tech University Library formed a cross-functional team to handle all aspects of electronic resources that coexists with the traditional library structure, while the Washington State University Libraries responded to the demands of acquiring and managing

electronic resources by formally integrating their collections and systems functions under one assistant director.<sup>27</sup> Clearly, no single organization model will serve all academic libraries in the digital environment. Library decisions concerning reorganization and reallocation will both inform, and follow from, their efforts to develop a concept of the hybrid collection that is appropriate to their local needs and expectations.

#### **4. How will your library establish and maintain a focus on collection content in the changing landscape of scholarly communications?**

In the pre-World Wide Web environment, bibliographers worked within the universe of published materials, and, in fact, relied heavily on publishers and booksellers for the information they needed to select materials and build collections. However, only a relatively small number of potentially valuable digital information resources are “packaged” by traditional publishers. In evaluating the others, bibliographers will have both the opportunity and the responsibility to interact directly with their content. In addition, they will have options to add value to digital resources by modifying, editing, and directing access to them.

Recent studies of job announcements confirm that library professional and administrative positions, including those related to collection management, are changing in ways that reflect the importance of computer and web skills.<sup>28</sup> In one informal survey, most of the responding bibliographers indicated that they are responsible for collecting web resources and that they use web tools to select traditional resources. The library directors surveyed noted the need to invest in training existing staff and the difficulties of finding new staff with appropriate credentials.<sup>29</sup> Selecting and managing digital, as well as analog, information resources in such a way as to create a logical, unified subject collection poses challenges to both new hires and staff already in place. Bibliographer skill sets, expectations, and responsibilities need to be reviewed and translated to fit the demands of building a hybrid collection that provides the breadth and depth of content appropriate for local needs.

#### **5. What commitment will your library make to collection permanence?**

In most research libraries the vast majority of analog materials added to the collection are intended to reside there indefinitely. Further, most of these libraries have achieved a comfortable, or at least acceptable, balance between the staff and fiscal resources they allocate to the acquisition of new analog materials and those they expend on preserving older materials. Given the dynamism of digital resources, and since their preservation requires different staff expertise and additional expenditures for technology, libraries building hybrid collections will have to reconsider their expectations about, and the resources they allocate to support, collection permanence. The concept of the hybrid collection must include a more flexible, realistic view of information resources and, hence, collection permanence, as well as recognition of the library’s role as a stakeholder in the debate over who will preserve digital resources. While an individual library may find local preservation of digital resources to be extraordinarily ambitious and expensive, it may have the resources to participate in one or more of the regional, national, or international collaborative preservation efforts that are currently being formed.<sup>30</sup>



## Summary

In FY 2000, the 105 members of the Association of Research Libraries reported that they had expended almost \$100 million on “computer files,” “electronic indexes and reference tools” and “electronic full text periodicals—evidence of the importance of digital information to the scholarly communication process and also evidence that academic library collections have already been transformed from analog to hybrid.<sup>31</sup> In order to develop and manage collections appropriately in the digital environment, academic librarians need a concept of the hybrid collection that reflects this reality. The collection management literature of selection, evaluation, policy development, and administration has begun to address digital resources and can assist them in these efforts. The five questions posed in this article are derived from collection goals and practices in the analog environment and are intended to guide local discussions leading to the development of an appropriate concept of collection for the digital age.

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## Notes

1. Hur-Li Lee, “What is a Collection?” *Journal of the American Society for Information Science* 51, 12 (2000): 1106.
2. “Concept” in *Webster’s II New Collegiate Dictionary* (New York: Houghton Mifflin Co., 1995), 232; “Concept” in *Webster’s 3<sup>rd</sup> New International Dictionary of the English Language Unabridged* (Springfield, MA: Merriam-Webster, Inc. 1986), 469.
3. “Library Collection” in *A. L. A. Glossary of Library Terms* (Chicago, IL: American Library Association, 1943), 131.
4. Hellmut Lehman-Haupt, *The Book in America: A History of the Making, the Selling, and the Collecting of Books in the United States*. (New York: R. R. Bowker Company, 1939).
5. Examples by these authors include: Frances K. W. Drury, *Book Selection* (Chicago, IL: American Library Association, 1930); Helen Haines, *Living With Books* (New York: Columbia University Press, 1935); S. R. Ranganathan, *Library Book Selection*, 2<sup>nd</sup> ed. (New York: Asia Publishing House, 1966); Robert N. Broadus, *Selecting Materials for Libraries* (New York: H. W. Wilson, 1973); William Katz, *Collection Development: The Selection of Materials for Libraries* (New York: Rinehart and Winston, 1980); Arthur Curley and Dorothy Broderick, *Building Library Collections*, 6<sup>th</sup> ed. (Metuchen, NJ: Scarecrow Press, 1985); David Spiller, *Book Selection: An Introduction to Principles and Practice* (Hamden, CT: Linnet Books and Clive Bingley, 1971); Mary Duncan Carter, Wallace John Bonk, and Rose Mary Magrill, *Building Library Collections*, 4<sup>th</sup> ed. (Metuchen, NJ: Scarecrow Press, 1974).
6. LeRoy Charles Merritt, *Book Selection: An Introduction to Principles and Practice* (Hamden, CT: Linnet Books and Clive Bingley, 1971).
7. Elizabeth Futas, ed., *Collection Development Policies and Procedures*, 3<sup>rd</sup> ed. (Phoenix, AZ: Oryx Press, 1995); Elizabeth Futas, ed., *Library Acquisition Policies and Procedures* (Phoenix, AZ: Oryx Press, 1997); Richard T. Wood and Frank Hoffman, *Library Collection Development Policies: A Reference and Writers’ Handbook* (Landham, MD: Scarecrow Press, 1996).
8. Bonita Bryant, ed., *Guide for Written Collection Policy Statements* (Chicago: American Library Association, 1989); Joanne S. Anderson, ed., *Guide for Written Collection Policy Statements*, 2<sup>nd</sup> ed. (Chicago: American Library Association, 1996).
9. Paul H. Mosher, “Collection Development to Collection Management: Toward Stewardship of Library Resources,” *Collection Management* 4, 4 (Winter 1982): 43.

10. *Ibid.*, p. 41–48; William A. Wortman, “Collection Management” in *World Encyclopedia of Library and Information Services* (Chicago, IL: American Library Association, 1993), 214–218; Derek Law, “The Organization of Collection Management in Academic Libraries” in Clare Jenkins and Mary Morley, eds., *Collection Management in Academic Libraries*, 2<sup>nd</sup> edition (Brookfield, VT: Gower, 1999), 15–37; Ross Atkinson, “Managing Traditional Materials in an Online Environment: Some Definitions and Distinctions for a Future Collection Management,” *Library Resources and Technical Services* 42, 1 (January 1998): 9–20.
11. Peter Brophy, *The Library in the Twenty-First Century: New Services for the Information Age* (London: Library Association Publishing, 2001), 68–69.
12. Carolyn Caywood, “Selection Criteria for World Wide Web Resources,” *Public Libraries* 35 (May/June, 1996): 169; Gregory F. Pratt, Patrick Flannery, and Cassandra L. D. Perkins, “Guidelines for Internet Resources Selection,” *Collection and Research Libraries News* 57 (March 1996): 134–135.
13. Diane Kovacs, *Building Electronic Library Collections: The Essential Guide to Selection Criteria and Core Subject Collections* (New York: Neal-Schuman Publishers, Inc., 2000), p. xiii.
14. Louis A. Pitschmann, *Building Sustainable Collections of Free Third-Party Web Resources* (Washington, DC: Digital Library Federation, Council on Library and Information Resources, 2001); Timothy Jewell, *Selection and Presentation of Commercially Available Electronic Resources: Issues and Practices* (Washington, DC: Digital Library Federation, Council on Library and Information Resources, 2001), 10–11.
15. Donnelly Curtis, Virginia M. Scheschy and Adolfo R. Tarango, *Developing and Managing Electronic Journal Collections* (New York: Neal-Schuman Publishers, Inc., 2000); Examples of Web pages include: University of Alberta Libraries, *Electronic Journal Criteria for Inclusion*. Available: <<http://www.library.ualberta.ca/ejournals/criteria/index.cfm>> [June 28, 2002]; Boston College Libraries, *Electronic Journal Collections Policy*. Available: <[http://www.bc.edu/bc\\_org/avp/ulib/coll/ejcoll.html](http://www.bc.edu/bc_org/avp/ulib/coll/ejcoll.html)> [June 28, 2002]; University of Oregon Libraries, *Collection Development Policy for Electronic Journals*. Available: <[http://libweb.uoregon.edu/colldev/public\\_policies/ejour.html](http://libweb.uoregon.edu/colldev/public_policies/ejour.html)> [June 28, 2002].
16. Peggy Johnson, “Collection Development Policies and Electronic Information Resources,” in G. E. Gorman and Ruth H. Miller, eds., *Collection Management for the 21<sup>st</sup> Century* (Westport, CT: Greenwood Press, 1997), 83–104; Margaret Ann Johnson, “Collection Policies for Electronic Resources,” *Technicalities* 18, 6 (June 1998): 10–12; Kristin D. Vogel, “Integrating Electronic Resources into Collection Development Policies,” *Collection Management* 21, 2 (1996): 65–76.
17. Ross Atkinson, “Managing Traditional Materials in an Online Environment: Some Definitions and Distinctions for a Future Collection Management,” *Library Resources and Technical Services* 42, 1 (January 1998): 19.
18. Joseph J. Branin, “Fighting Back and Once Again: From Collection Management to Knowledge Management,” in Bonnie MacEwan and Peggy Johnson, eds., *Collection Management and Development: Issues in an Electronic Era. Proceedings of the Advanced Collection Management and Development Institute, Chicago IL March 26–28, 1993* (Chicago: American Library Association, 1994), xiv; John M. Budd and Bart M. Harloe, “Collection Development and Scholarly Communication in the 21<sup>st</sup> Century: From Collection Management to Content Management” in Gorman and Miller, 15.
19. Peter Brophy, *The Library in the Twenty-First Century: New Services for the Information Age* (London: Library Association Publishing, 2001), 95.
20. Budd and Harloe, 4.
21. Donald Beagle, “Conceptualizing an Information Commons,” *Journal of Academic Librarianship* 25, 2 (March 1999): 82–89.
22. Richard C. Rockwell, “The Concept of the Gateway Library: A View from the Periphery” in Lawrence Dowler, *Gateways to Knowledge: The Role of Academic Libraries in Teaching, Learning and Research* (Cambridge, MA: MIT Press, 1997), 109–122.
23. Brophy, 95.



24. Danuta A. Nitecki and Brinley Franklin, "New Measures for Research Libraries," *Journal of Academic Librarianship* 25, 6 (November 1999): 484–487; Martha Kyrillidou and Kaylyn Hipps, "Symposium on Measuring Library Service Quality," *ARL* 215 (April 2001): 9–11. Available: <<http://www.arl.org/newsltr/215/octsymp.html>> [June 28, 2002].
25. Stephen R. Lawrence, Lynn Silipigni Connaway, and Keith H. Brigham, "Life Cycle Costs of Library Collections: Creation of Effective Performance and Cost Metrics for Library Resources," *College and Research Libraries* 62, 6 (November 2001): 541–551.
26. Jewell.
27. Suzan McGinnis and Jan H. Kemp, "The Electronic Resources Group: Using the Cross-Functional Team Approach to the Challenge of Acquiring Electronic Resources," *Library Acquisitions: Practice & Theory* 22, 1 (Autumn 1998): 295–301; John Webb, "Collections and Systems: A New Organizational Paradigm for Collection Development," *Library Collections, Acquisitions, and Technical Services* 25, 1 (Winter 2001): 461–468.
28. Beverly P. Lynch and Kimberley Robles Smith, "The Changing Nature of Work in Academic Libraries," *College & Research Libraries* 62, 5 (September 2001): 407–420; Gary W. White, "Academic Subject Specialist Positions in the United States: A Content Analysis of Announcements from 1990 through 1998," *Journal of Academic Librarianship* 25, 5 (September 1999): 372–383; Janice Simmons-Welburn, *Changing Roles of Library Professionals*, SPEC Kit 256 (Washington, DC: Association of Research Libraries, May 2000).
29. Sheila S. Intner, "Impact of the Internet on Collection Development: Where are We Now? Where are We Headed? An Informal Study," *Library Collections, Acquisitions, and Technical Services* 25, 3 (Autumn 2001): 307–322.
30. Examples of cooperative preservation programs are described in *Attributes of a Trusted Digital Repository: Meeting the Needs of Research Resources—Draft for Public Comment* (Mountain View, CA: Research Library Group, August 2001). Available: <<http://www.rlg.org/longterm/attributes01.pdf>> [June 28, 2002].
31. Martha Kyrillidou and Mark Young, eds., *ARL Supplementary Statistics 1999–2000* (Washington, DC: Association of Research Libraries, 2001), 10.