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The Ethics of Republishing

Philip M. Davis

Dual Publication

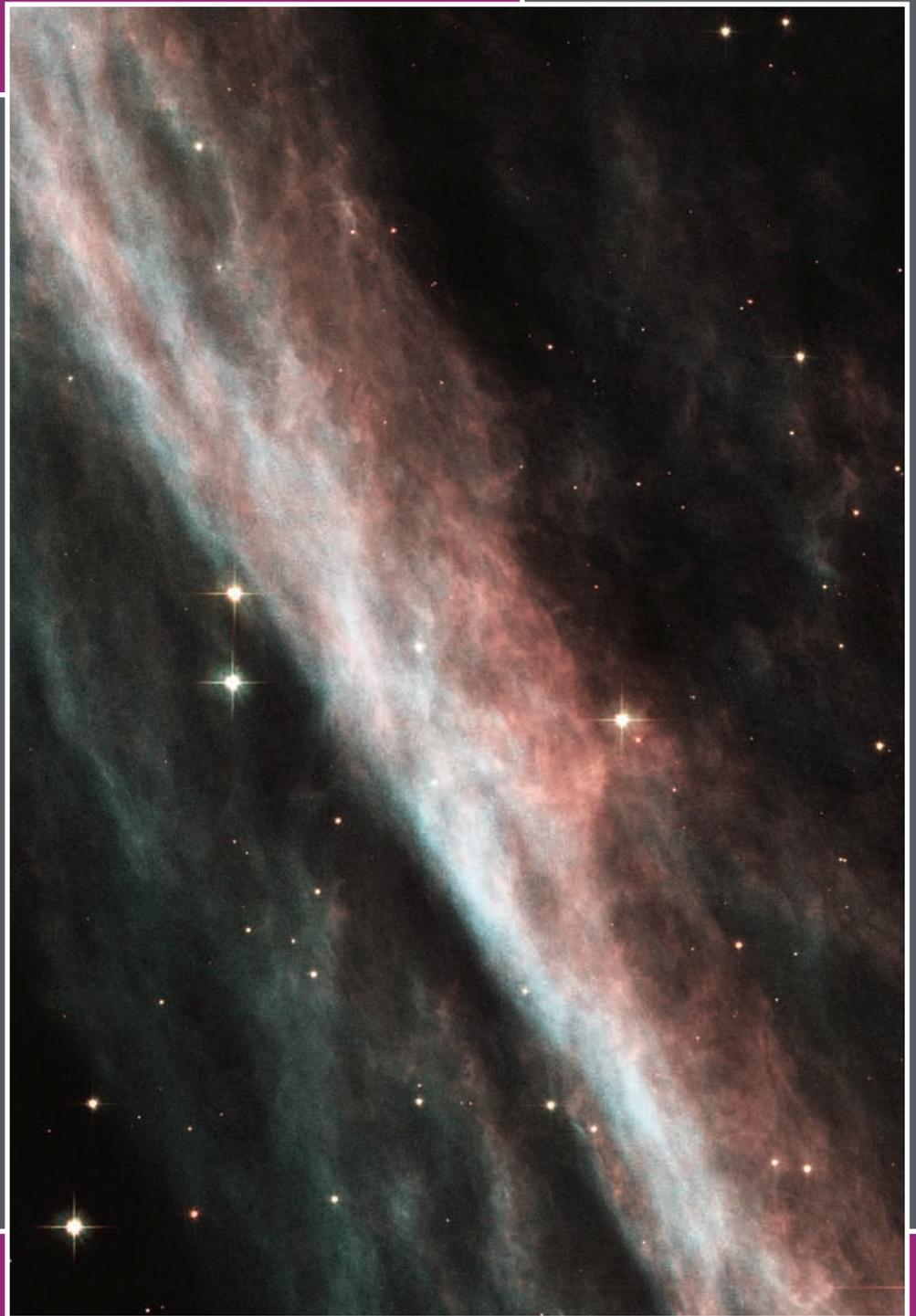
Gillian Crawford

Use of General Preservation Assessments

Karen E. K. Brown

A Serials Acquisitions Cost Study

David C. Fowler and
Janet Arcand



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Contact Information

ALCTS Office

50 E Huron St.
Chicago, IL 60611-2795
1-800-545-2433, ext. 5038
fax: (312) 280-5033
www.ala.org/alcts

alcts@ala.org

Charles Wilt

Executive Director

1-800-545-2433, ext. 5030

cwilt@ala.org

Julie Reese

Continuing Education and Meetings

1-800-545-2433, ext. 5034

jreese@ala.org

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m-john@tc.umn.edu

Pamela Bluh

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pbluh@umaryland.edu

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Editorial

Peggy Johnson

The purpose of *LRTS* is to “support the theoretical, intellectual, practical, and scholarly aspects of the profession of collection management and development, acquisitions, cataloging and classification, preservation and reformatting, and serials, by publishing articles (subject to double-blind peer review) and book reviews, and editorials and correspondence in response to the same.”¹ To that end, *LRTS* aims to publish papers that represent all activities for which ALCTS is responsible. We seek to give particular attention to those areas that the membership tells us are of greatest interest. This issue is representative of the ALCTS membership, with papers on classification, subject analysis, preservation, acquisitions, and serials. I am especially excited to publish “The Ethics of Republishing: A Case Study of Emerald/MCB University Press Journals,” by Phil Davis. This study has already gained a great deal of attention in our profession following Phil’s initial presentation of his research in November 2004. Papers such as these, and the others in this issue, are what make *LRTS* a stellar journal.

The prominence of *LRTS* has been confirmed in a recent study by Thomas Nisonger and Charles Davis of Indiana University presented in October 2004 at the National Library Research Seminar III, Kansas City.² Nisonger and Davis gathered ratings from the deans and directors of ALA-accredited MLS degree programs in North America, who ranked the importance and prestige of more than seventy library and information science refereed research journals in supporting promotion and tenure decisions. *LRTS* was ranked twelfth (along with *College & Research Libraries*).

The 2004 research journal ranking is given below for the top twelve:

1. *Journal of the American Society for Information Science and Technology: JASIST*
2. *Library Quarterly*
3. *Information Processing & Management*
4. *Library & Information Science Research*
5. *Journal of Documentation*
6. *Annual Review of Information Science and Technology: ARIST*
7. *Scientometrics*
8. *Library Trends*
9. *Journal of the American Medical Informatics Association*
10. *MIS Quarterly*
11. *Libraries & Culture*
12. *Library Resources & Technical Services*
12. *College & Research Libraries*

References

1. *Library Resources & Technical Services* Web site. Accessed Dec. 31, 2004, www.ala.org/alcts/lrts.
2. Thomas E. Nisonger and Charles H. Davis, “The Perception of Library and Information Science Journals by LIS Education Deans and ART Directors: A Replication of the Kohl-Davis Study” (paper presented at the Library Research Seminar III, Kansas City, Mo., Oct. 14, 2004).

The Ethics of Republishing

A Case Study of Emerald/MCB University Press Journals

Philip M. Davis

Publishing a journal article without citing the original source is considered unethical in the scholarly community. Simple keyword searching of Emerald (formerly MCB University Press) online journals from the publisher's Web site has identified 409 examples of articles from 67 journals that were republished without such notification from 1989 through 2003. Many of these articles were published simultaneously in journals within the same or similar subject disciplines. Five examples of triple publication were identified. In several cases, neither the editor nor editorial board members had knowledge of this practice. This paper will review the conditions of acceptable republishing plus document and provide examples of republication. It will discuss implications on the publication of record, and question whether this is a case of "let the buyer beware."

Redundant publication has been described as "self-serving, wasteful, abuses the volunteer time of peer reviewers, and can be profoundly misleading."¹ It is especially disapproved of when done covertly.

Search engines have made it much easier to locate information—they have also made locating instances of unethical publishing behavior easier. A full-text search of a colleague's name in Emerald's database provided the first example of an article that was published without explicit notification in two separate journals. Simple keyword title searching has led the author to more than four hundred examples of this behavior in sixty-seven of one publisher's journals, taking place over a period of at least fifteen years. The publisher (Emerald, formerly MCB University Press) states that it has ceased the practice of article duplication.

Libraries spend considerable sums of money to purchase academic journals. Skyrocketing journal inflation coupled with stagnant acquisitions budgets have resulted in massive cancellation in our libraries. The results of this research suggest that libraries collectively may have spent vast sums of money on duplicated materials from Emerald and did not know it. Furthermore, the presence of undocumented duplicated articles in the literature poses the problem of identifying the original publication of record. These articles cannot simply be unpublished or deleted from the academic literature—they are part of the permanent record of scholarship.

The goal of this paper is to document one publisher's republishing practice and to use this example as a means of educating the publishing industry and alert the library community about unacceptable publishing

Philip M. Davis (pmd8@cornell.edu) is Life Sciences Bibliographer, Mann Library, Cornell University, Ithaca, New York.

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practices. This provides an opportunity to review what connotes ethical republishing in order to avoid future occurrences of this kind.

Literature Review: The Ethics of Republishing

The Committee on Publication Ethics (COPE) defines redundant publication when “two or more papers, without full cross reference, share the same hypothesis, data, discussion points, or conclusions.”² Exact duplication, the focus of this paper, is a specific and rare type of redundant publication. Von Elm et al. found only a small percentage of duplicates in the medical literature be exact copies.³ In his article, “Multiple Publication Reconsidered,” Fulda argues that limited use of multiple publication is acceptable given that the following conditions are met:

1. Article republication only takes place in journals representing different subject fields.
2. The editor of the second journal knows of its prior publication.
3. Prior publication must be acknowledged in the second publication.
4. Duplicate articles are not published simultaneously.
5. The two journals must not have overlapping readership.⁴

COPE recommends that, “published studies do not need to be repeated unless further confirmation is required.”⁵ When republication is necessary, COPE requires “full and prominent disclosure of the original source.”⁶ The Association of Learned and Professional Society Publishers, of which Emerald Group Publishing is a member, relies on COPE guidelines.⁷

The medical community appears to be organized and consistent regarding redundant publishing. Most medical journals follow some version of the Ingelfinger Rule, a rule formed by Franz Ingelfinger in 1969, then the editor of *The New England Journal of Medicine*, to protect the journal against publishing material that had already been published and to discourage the practice of redundant publishing.⁸

The World Association of Medical Editors (WAME) has established comprehensive guidelines on ethical publishing behavior. Specifically, they state:

Journals should generally seek original work that has not been previously published. . . . Republication of a paper in another language, or simultaneously in multiple journals with different audiences, may be acceptable, *provided*

*that there is full and prominent disclosure of its original source at the time of submission of the manuscript.*⁹ [italics added by author]

The International Committee of Medical Journal Editors has a similar policy:

Readers of primary source periodicals, whether print or electronic, deserve to be able to trust that what they are reading is original *unless there is a clear statement that the article is being republished by the choice of the author and editor*. The bases of this position are international copyright laws, ethical conduct, and cost-effective use of resources.¹⁰ [italics added by author]

Many publishers have policies to prevent multiple submissions by the author, and Emerald is no exception. Emerald’s submission policy assumes that the content is original and that ownership of the content is transferred from the author to the publisher:

Articles submitted to the journal should be original contributions and should not be under consideration for any other publication at the same time. Authors submitting articles for publication warrant that the work is not an infringement of any existing copyright and will indemnify the publisher against any breach of such warranty. For ease of dissemination and to ensure proper policing of use, papers and contributions become the legal copyright of the publisher unless otherwise agreed. Submissions should be sent to . . . the Editor.¹¹

In addition, the copyright policy of Emerald is designed to “Protect authors’ moral rights and their work from plagiarism, unlawful copying and any other infringement of copyright.”¹² Note that the publisher’s policies are set to protect the company against unethical and illegal acts performed by the author such as multiple submissions. They do not state guidelines for what is acceptable behavior once copyright permissions are transferred to the publisher.

Publisher Policies Regarding Republication

Several commercial publishers of social science material have either corporatewide policies or rigorous standards for republishing. Elsevier’s practice is original publication for its primary journals, and, in the case of its professional journals, it will not “republish material

except where explicitly indicated.”¹³ Sage Publications, “require[s] permission, acknowledgement, and, depending on the circumstances (i.e., for commercial use or resale), a permissions fee.”¹⁴ According to Haworth Press, “we always explicitly state when material has already been published, and in fact, there is a note in all of our books that material is original unless we state otherwise.”¹⁵ Blackwell and Taylor & Francis rely on journal-level policies and will occasionally republish articles with explicit notice.

Examples of Republishing in the Literature

The published literature includes many examples of republished papers. The landmark article by Watson and Crick describing the structure of DNA was originally published in *Nature* in 1953, but has been republished at least four times since its original release.¹⁶ Reprinted by the *Journal of the American Medical Association* in 1993, this article is forwarded by an editorial statement which reads, “In recognition of the 40th anniversary of the discovery of the structure of DNA, we reprint the following landmark articles by Drs. Watson and Crick, which originally appeared in *Nature* in 1953.”¹⁷ The full citation of the original article then follows.

Examples of article republishing exist in library and information science literature. *Library Resources & Technical Services* recently republished an award-winning article that first appeared in 1992.¹⁸ The republished article not only carried a full citation of the original source, but was preceded by a reflections article by the author and an editorial note explaining why it was republished.¹⁹

While most journal articles cannot expect to be republished, gathering articles on a particular topic and publishing them as a book is not uncommon. *Genomic Medicine: Articles from the New England Journal of Medicine* and *Silver: Environmental Transport, Fate, Effects, and Models: Papers from Environmental Toxicology and Chemistry, 1983 to 2002* are both examples of republishing previously released articles.²⁰ The titles of these books are designed to clearly state that their contents are not original but a collection of previously published articles. Haworth Press regularly republishes articles simultaneously as monographs, yet each article contains an explicit statement to this nature.²¹ Haworth book catalogs also include unambiguous statements if their books contain previously published articles and provide full references.

A search of the literature indicated that redundant publication has focused almost entirely on documenting unethical behaviors of authors, such as multiple submissions, translations of the same article, or republishing data without cross-referencing the original article. Reports of

publishers duplicating articles in its own journals without explicit notification could not be verified in the literature. Correspondence with several experienced librarians and publishers could not identify undocumented cases. The author believes that the practices described below of Emerald/MCB are unknown to the wider library and academic community.

Method

Based on anecdotal evidence that some degree of duplication was performed by this publisher, the author used simple title keyword searches to identify examples. The author was chiefly interested in identifying the extent of duplication. Was duplication limited to only a few journals, or did it appear widespread among Emerald/MCB journals? How frequent was article duplication in particular journals? When did it start and has it stopped? For particular journals that illustrated a pattern of republication, entire issues or volumes were investigated in detail and each article title was searched.

The first and last pages of duplicate articles were printed and examined to find publisher notes regarding republication. Print copies of selected journals were retrieved from the stacks or by interlibrary loan to verify if republishing notes appeared elsewhere in the journal (cover page, verso, notes for submission, and so on.)

Searches of library catalogs were performed to determine whether libraries subscribed to journals that contained duplicate content. Selected authors were contacted to see if they had knowledge that their articles were republished. Lastly, various editors and editorial board members of journals that exhibited significant article duplication were contacted to determine if they had knowledge of their journal’s practice. Authors and editors are not named in the paper for confidentiality reasons.

Research Results

Simple keyword searching of Emerald online journals from the publisher’s Web site has identified 409 examples of articles from 67 journals that were republished without explicit notification from 1989 through 2003. Because the Emerald online holdings do not predate the late 1980s, earlier examples of multiple publication could not be identified using the method followed for this paper. The publisher has stated article duplication is no longer practiced. In June 2001, the company officially changed its name from MCB University Press to Emerald.

The author discovered that most articles were published in two journals simultaneously (see figure 1), or

after a significant delay (see figure 2). Full citations and abstracts for these and the following examples can be retrieved from Emerald's Web site at www.emeraldinsight.com/rpsv/cgi-bin/emeraldbdbr or by connecting to the publisher Web site at www.emeraldinsight.com and clicking on the Emerald Journals icon. Full article access is limited to subscribers or their subscribing institutions.

Two examples of articles republished in the same journal were discovered. One is presented in figure 3. Five cases of triple publication were identified. An example of the practice is presented in figure 4. Some republished articles contained slight title modifications; see figure 5 for an example. In all cases, the republished article was reformatted so that it fit in with the look of the second journal; see figure 6 for an example of reformatting. In cases where the formatting of the journal was identical, only the footer (bibliographic information) was changed; see figure 7 for an example.

The author discovered no notes on either the articles or elsewhere in the journal indicating previous publication. Examination of print copies of selected journals also verified a lack of notification.

Examples of redundant publication were identified between journals within similar subject scope (for example, within library science, management, or medicine) or between related categories, such as library management and personnel management or library science and computer science. A list of sixty-seven journals with some duplication of content is provided in the appendix

Patterns of Republication

Some journals contained infrequent instances of republished articles; others contained considerable republished content. An entire issue of ten articles was discovered to be published in two journals—*Library Management* (16, no. 5 [1995]) and *Management Decision* (33, no. 5 [1995]). An entire issue (five articles) was discovered to be published in both *Managerial Auditing Journal* (5, no. 2 [1990]) and *Leadership and Organization Development Journal* (11, no. 3 [1990]).

All twenty-two articles published in volume 6 (1997) of *Asian Libraries* were discovered in other library publications. Nearly three-quarters (twenty-seven out of forty) of articles published in *OCLC Systems & Services* from 1997 through 1999 were duplicated in other journals. Nearly half (seventeen out of thirty-six) of articles published in *Internet Research* in 1996 were duplicated in other journals. All forty-six articles published in the *Clinical Performance in Quality Healthcare* over two years (7, no. 3/4 [1999] and 8, no. 1–4 [2000]) were also published in the *British Journal of Clinical Governance* (4, no. 2 and 4 [1999] and 5, no. 1–4 [2000]) during the same period.

Figure 1. Simultaneous publication

Woodward, Hazel, et al. "Electronic Journals: Myths and Realities." *Library Management* 18, no. 3 (1997): 155–62.

———. "Electronic Journals: Myths and Realities." *OCLC Systems and Services* 13, no. 4 (1997): 144–51.

Figure 2. Delayed republication in different journal

Burdett, John O. "Death of a Salesman." *Empowerment in Organisations* 6, no. 8 (1998): 210–20.

———. "Death of a Salesman." *Career Development International* 6, no. 3 (2001): 176–82.

Figure 3. Delayed republication in the same journal

Elmuti, Dean, et al. "Inequality Between Genders in the Executive Suite in Corporate America: Moral and Ethical Issues." *Equal Opportunities International* 22, no. 2 (2003): 40–58.

———. "Inequality Between Genders in the Executive Suite in Corporate America: Moral and Ethical Issues." *Equal Opportunities International* 22, no. 8 (2003): 1–19.

Figure 4. Triple publication

Wren, Jan, and Barrie Craven. "A Cost-Effectiveness Study of Changing Medical Practise in Early Pregnancy." *Journal of Management in Medicine* 11, no. 6 (1997): 372–81

———. "A Cost-Effectiveness Study of Changing Medical Practise in Early Pregnancy." *Clinical Performance in Quality Healthcare* 7, no. 4 (1999): 172–77

———. "A Cost-Effectiveness Study of Changing Medical Practise in Early Pregnancy." *British Journal of Clinical Governance* 4, no. 4 (1999): 148–54

Figure 5. Republication with a slight title modification

Forster, Nick. "A Case Study of Women Academics' Views on Equal Opportunities, Career Prospects and Work-Family Conflicts in a British University." *Women in Management Review* 15, no. 7 (2000): 316–30.

———. "A Case Study of Women Academics' Views on Equal Opportunities, Career Prospects and Work-Family Conflicts in a UK University." *Career Development International* 6, no. 1 (2001): 28–38.

(note "British university" in first citation and "UK university" in second citation)

Figure 6. Reformatted articles

Usherwood, Bob, et al. "Recruitment and Retention in the Public Library—A Baseline Study." *Library Management* 21, no. 2 (2000): 62–80.

———. "Recruitment and Retention in the Public Library—A Baseline Study." *Career Development International* 5, no. 6 (2000): 301–17.

Figure 7. Articles that share formatting with only bibliographic information changed

Sloan, Bernie. "Allocating Costs in a Consortial Environment: A Methodology for Library Consortia." *The Bottom Line* 11, no. 2 (1998): 45–52.

———. "Allocating Costs in a Consortial Environment: A Methodology for Library Consortia." *OCLC Systems and Services* 15, no. 1 (1999): 65–71.

Complete lists of all examples identified by the author are provided in two documents, "Examples of MCB University Press Republished Articles in Alphabetical Order" and "Examples of MCB University Press Republished Articles in Journal Order," that can be found at the author's Web site.²²

Overlapping Subscriptions Discovered in Libraries

A search of the Research Libraries Group union catalog, which lists the holdings of library member collections around the world, yielded several examples where a library subscribed to at least two journals in which article duplication was present. For example, the University of Pennsylvania Library subscribed to *Clinical Performance and Quality Health Care* and the *British Journal of Clinical Governance* during the two years when full duplication of content was practiced. Several libraries subscribed to both *Library Management* and *Management Decision* in 1995, when an entire issue was jointly published.

Response from Authors, Editors, and Editorial Board Members

Several authors responded to this author's request asking if they had knowledge of their articles being republished. Some responded that they had been contacted by the publisher for permission; others could not recall. One, author who was not aware of republication, joked that it meant another citation to put on his resume.

Editors and editorial board members of Emerald/ MCB journals were contacted to discover if they knew about articles being republished in their journals. A few editors responded that they were not functioning as the editor prior to 2002 when republication occurred and it was not the current policy of their journals. Other editors did not return the author's inquires. The managing editor of *Clinical Governance* (which succeeded the two journals listed below) provided the following rationale for multiple publication:

There are two reasons why the articles have been duplicated. Firstly we acquired the US-based

journal, *Clinical Performance and Quality Health Care*, mid-volume in 1999 and the journal was finally merged with the *British Journal of Clinical Governance* in 2000. This meant that we continued to publish both journals to satisfy subscribers to each volume. Secondly, when most subscriptions were paper based and to individual paper journals, some articles that were considered to be of particular merit were occasionally published in more than one Emerald journal. This helped to disseminate the research to a broader audience. Although, Emerald now sells mostly database subscriptions and because of this users have access to a much greater number of Emerald articles—so we don't do this anymore.²³

The management of Emerald/MCB journals is facilitated by one or more academic editors plus an editorial team, with the assistance of a managing editor from the publisher. The managing editor is responsible for a suite of journals within a particular subject discipline. The author was unable to verify whether the academic editors and their editorial team had knowledge of the redundant publication practices. One editor of a management journal responded to the author's investigation and suggested that instances of duplicate publication must have been an error caused by multiple author submissions. Another editor of a management journal responded, "I can categorically state that when I was the editor I was not aware of any such practice, and would neither condone nor practice such republication." Several librarians serving on the editorial board of *OCLC Systems and Services* during the period of widespread article duplication who could be contacted reported no knowledge of this practice. Several inquiries to the publisher on whether the same managing editor was responsible for coordinating duplicate publishing were unanswered.

Discussion

Returning to the five criteria established by Fulda on acceptable, or "ethical" republishing, the case of the Emerald/MCB UP article republishing appears to fail on all five criteria:

1. Articles were published in journals representing same or similar subject fields.
2. The editor and editorial board (at least in some cases) did not know of prior publication.
3. Prior publication was not acknowledged in subsequent publications.
4. Articles were published simultaneously.

5. Journals had overlapping subscribership and overlapping readership.

The case of Emerald/MCB article republishing, documented in this paper, appears to fail on all five criteria presented by Fulda. Performing an unethical act does not necessarily mean performing an illegal act. Many publishers require authors to relinquish copyright of the article, meaning that the publisher takes ownership of the material. Republishing in this light may not be illegal in the sense that the publisher has not violated the rights of the author, and no law states that one cannot republish information. But what about the rights of the customer?

In many business transactions, the buyer alone is responsible for discerning if the product is free from defects. This is known as *caveat emptor*, Latin for “let the buyer beware.” However, the rule does not apply when the purchaser is unable to examine the goods. For journal subscriptions, payment is made in advance for future receipt of content. While not expressly stated, the content purchased from academic publishers is generally assumed to be original in nature unless explicitly declared otherwise. The author of this report could not find any information in the republished articles indicating that they were not original. Library subscribers would have no way of knowing that they were purchasing duplicate content.

Publication of Record

When two exact articles are published at or around the same time, discerning which is the publication of record is difficult. Discerning when an article has been republished after a significant period of delay is easier, yet this puts the onus on the researcher to track down the first publication when there is no indication that the article has been republished. If the researcher found the first article by searching an index, a duplicate copy might be discovered if the articles were published in the same field (for example, both within library science). Discovering the duplicate article may be impossible if it was published in journals in management or computer science (as noted in the example). A follow-up study will investigate how authors cited duplicated articles.

Conclusion

More than four hundred examples of article duplication were discovered in sixty-seven journals published by Emerald/MCB from 1989 to 2003. The degree of duplication in journals ranged from occasional articles to complete issues. In all cases, duplication appeared covert, meaning that the reader and subscriber had

no indication that the content was not original. This author believes that the practices of Emerald/MCB are unknown to the wider library and academic community.

This report was based on simple keyword searching of Emerald’s collections. Because searching was not systematic, the full degree of duplication is unknown. The author recommends that the publisher conduct a full search of its collections and make publicly available a complete list of republished articles.

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Appendix. Journals in Which Articles Were Duplicated

- | | |
|---|---|
| <p><i>Asian Libraries</i>
 <i>British Food Journal</i>
 <i>British Journal of Clinical Governance</i>
 <i>Campus-Wide Information Systems</i>
 <i>Career Development International</i>
 <i>Clinical Performance in Quality Healthcare</i>
 <i>Collection Building</i>
 <i>Disaster Prevention and Management</i>
 <i>Education and Training</i>
 <i>Employee Relations</i>
 <i>Empowerment in Organisations</i>
 <i>Equal Opportunities International</i>
 <i>European Journal of Innovation Management</i>
 <i>European Journal of Marketing</i>
 <i>Executive Development</i>
 <i>Facilities</i>
 <i>Health Manpower Management</i>
 <i>Industrial and Commercial Training</i>
 <i>Industrial Management and Data Systems</i>
 <i>Information Management and Computer Security</i>
 <i>Information Technology and People</i>
 <i>Interlending and Document Supply</i>
 <i>International Journal of Bank Marketing</i>
 <i>International Journal of Career Management</i>
 <i>International Journal of Contemporary Hospitality Management</i>
 <i>International Journal of Educational Management</i>
 <i>International Journal of Health Care Quality Assurance</i>
 <i>International Journal of Manpower</i>
 <i>International Journal of Physical Distribution and Logistics Management</i>
 <i>International Journal of Public Sector Management</i>
 <i>International Journal of Retail and Distribution Management</i>
 <i>International Journal of Service Industry Management</i></p> | <p><i>International Marketing Review</i>
 <i>Internet Research</i>
 <i>Journal of Business and Industrial Marketing</i>
 <i>Journal of Educational Administration</i>
 <i>Journal of Management in Medicine</i>
 <i>Journal of Marketing Practice</i>
 <i>Journal of Product and Brand Management</i>
 <i>Journal of Service Marketing</i>
 <i>Journal of Workplace Learning</i>
 <i>Leadership and Organizational Development Journal</i>
 <i>Librarian Career Development</i>
 <i>Library Consortium Management</i>
 <i>Library Management</i>
 <i>Library Review</i>
 <i>Logistics Information Management</i>
 <i>Management Decision</i>
 <i>Management Development Review</i>
 <i>Managerial Auditing Journal</i>
 <i>Marketing Intelligence and Planning</i>
 <i>New Library World</i>
 <i>Nutrition and Food Science</i>
 <i>OCLC Systems and Services</i>
 <i>Online Information Review</i>
 <i>Personnel Review</i>
 <i>Quality Assurance in Education</i>
 <i>Reference Reviews</i>
 <i>Supply Chain Management</i>
 <i>Team Performance Management</i>
 <i>The Bottom Line : Managing Library Finances</i>
 <i>The Electronic Library</i>
 <i>The Learning Organization : An International Journal</i>
 <i>Training for Quality</i>
 <i>Women in Management Review</i>
 <i>World Transport Policy and Practice</i></p> |
|---|---|



November 2004

Dual Publication: Emerald's Response

We respect the right of the author to pursue this kind of study and have extended our full cooperation, including personal conversations between the author and one of our Directors.

We accept that explicit notice of dual publication should have been published alongside each article and regret any inconvenience as a result of that notice not being given. However, the activity was not without the knowledge of the authors as implied, as all reasonable steps were taken by MCB to contact and inform the authors of our intent to publish their article in another journal.

During the period 1989 to 2000, articles considered to be of particular merit were occasionally published within another MCB journal where it was felt that their content would be of interest or benefit to the additional journal audience. Today, Emerald relies on comprehensive databases and search engines to provide wide dissemination of noteworthy articles.

In addition, when certain journals were acquired, previously published articles were used to help where we had inherited a significant delay in the despatch schedule. Again, we acknowledge that explicit notice of re-publication should have been made when it took place in these circumstances. To put this into context, the re-publication of articles in *Clinical Performance in Quality Healthcare* was from the *British Journal of Clinical Governance*, with which it was subsequently merged (within 12 months) and for which there was an identified subscriber overlap between the two journals of five customers world-wide. We have conducted our own research and will contact all those customers affected.

In order to explain to researchers and users working with Emerald content now, and in the future, that certain articles were published twice in different journals, Emerald is adding a "note" to the SGML (which is the header information) following the abstract, which will explain where else the paper has been published. This work will be completed by the end of 2004.

There has been no deliberate dual publication since 2001. There are two accidental instances of dual publication to our knowledge in recent times – one a book review and one an article that appeared in *Equal Opportunities International*. This is a journal owned and published by Barmarck Publications. The content is not owned by Emerald, but is currently hosted on the Emerald website.

To reiterate, our policy is not to practise dual publication. We may, however, occasionally re-publish an article with the author's consent and full attribution. These circumstances may include a themed collection or review issue, a landmark paper/classic article or an anniversary issue of a notable journal.

Publishing practices at Emerald today emphasise our communication and service levels to customers. We are dedicated to building lasting relationships with librarians and faculty members and to focusing on the future. In 2002 Emerald was awarded the *Charleston Advisor Award* for customer support. We regularly survey our authors and library customers to gauge their views on how we serve their needs, and the results are very positive. Ongoing communication with our stakeholders provides valuable feedback to improve the service to our author, library, researcher and user communities.

Once again, we apologise for any inconvenience caused to our authors and customers and fully acknowledge that attribution should have been given. We now have an explicitly stated policy and are correcting the SGML of affected articles.

If you were affected by any of the issues covered within this response, please contact:

Gillian Crawford
Head of Corporate Communications
Emerald Group Publishing Limited
Tel: +44 1274 777700
Email: g Crawford@emeraldinsight.com
Web: www.emeraldinsight.com

2004 ALCTS President's Program

ALA Annual Conference,
28 June 2004, Orlando, Florida

**Brian E. C. Schottlaender, Douglas Greenberg,
and Bill Ivey**

Three papers given at the 2004 Association for Library & Technical Services President's Program are presented. They explore the challenge of preserving cultural memory—an increasingly complex task in an era with a short attention span that may compromise a long-term perspective.

World Enough, and Time—Libraries As Agents of Cultural Memory: Introduction to the 2004 ALCTS President's Program, June 28, Orlando, Florida

Brian E. C. Schottlaender

I am delighted to welcome you to the 2004 ALCTS President's Program. I want to thank you for making the long trip to this distant, if beautiful venue. I also want to thank my Program Planning Committee, chaired by Wendy Pradt Lougee of the University of Minnesota, and including Abby Smith of the Council on Library and Information Resources, Gay Dannelly of Notre Dame University, Genevieve Owens of the Williamsburg Regional Library, and Jane Treadwell of the University of Illinois at Springfield. Finally, I am very pleased to thank our generous sponsors for today's program. Basic Books has donated three hundred copies of Stewart Brand's *The Clock of the Long Now* for today's event. Firma Otto Harrassowitz of Wiesbaden, Germany, and their president and CEO, Knut Dorn, have provided financial support. Almost thirty years ago to the day, Knut and his father Richard gave me my start in the information business. I was grateful then, and I am grateful now. Thank you, Knut.

This program has its genesis in my reading a few years ago Stewart Brand's *The Clock of the Long Now*, and in particular in the chapter contained in that book titled "Burning Libraries."¹ Why, Brand wonders, have people throughout history (from the third century B.C. through the present) burned libraries? In order to wipe clean the slate of history, he concludes, noting that: "Burning libraries is a profound form of murder, or if self-inflicted, suicide. It does to cultural continuity—and hence safety—what destroying species and habitats does to nature's continuity, and hence safety."²

August, writing in the fall 2001 issue of *American Studies*, notes:

From the campaign of ancient rhetoricians to devise "places of memory," to the modern campaigns to devise a universal standard

Brian E. C. Schottlaender (becs@ucsd.edu) is University Librarian, University of California, San Diego. **Douglas Greenberg** (doug@vhf.org) is President and Chief Executive Officer, Survivors of the Shoah Visual History Foundation, Los Angeles. **Bill Ivey** (bill.ivey@vanderbilt.edu) is Director, Curb Center for Art, Enterprise, and Public Policy, Vanderbilt University, Nashville, Tenn.

bibliography, the Western ideal of the library has represented not merely a collection of books gathered for some purpose but also arguments about the location, form, and power of knowledge in particular social and historical contexts. As a symbolic space, a type of collection, a kind of building, the library gives institutional form to our collective memory.³

Cultural memory provides society with continuity, a mechanism for preserving the knowledge of generations past and present for those to come. Cultural memory resides not only in the products of civilization (such as books or art), but also in myriad communication channels and processes. *The Clock of the Long Now* depicts the increasingly complex task of preserving cultural memory in an era whose “pathologically short attention span” may compromise a long-term perspective.⁴ In a time when information permanence is increasingly in question, how do we shape and sustain the legacy of our culture? And where do libraries fit in this process?

The subtitle of *The Clock of the Long Now* is “Time and Responsibility,” about which Brand, in the book’s opening chapter, writes:

Time and Responsibility. What a prime subject for vapid truisms and gaseous generalities adding up to the world’s most boring sermon. To spare us both, let me tie this discussion to a specific device, specific responsibility mechanisms, and specific problems and cases. The main problems might be stated [as follows]: How do we make long-term thinking automatic and common instead of difficult and rare? How do we make the taking of long-term responsibility inevitable? The device is a clock, very big and very slow. For the purposes of this book it is strictly notional, a clock of the mind, an instrument for thinking about time in a different way.⁵

Before turning the podium over to our featured speakers, let me say a few words about the title of our program today, “World Enough and Time.” When Genevieve Owens suggested the title to me, I was not sure whether she was motivated by Robert Penn Warren’s novel of the same title or by the first line of “To His Coy Mistress” by Andrew Marvell (the great seventeenth-century metaphysical poet).⁶ It turns out to have been the latter, but the former is no less relevant. In *World Enough, and Time*, Nicholas Murray, Andrew Marvell’s biographer, summarizes “To His Coy Mistress” as follows:

‘Had we but World enough, and Time . . .’
[there would be no urgency]
‘But at my back I alwaies hear . . .’
[the pressure of passing time denies us that leisure]
‘Now therefore . . .’
[it is imperative that we seize the moment while we can]⁷

Penn Warren’s omniscient narrator, meanwhile—in setting the stage for explaining how it is we have come to know the fate of the protagonist of *World Enough, and Time*—begins that novel with the following:

I can show you what is left . . . what is left is in our hands. Here are the scraps of newspaper, more than a century old, splotched and yellowed and huddled together in a library, like November leaves abandoned by the wind, damp and leached out . . . Here are the diaries, the documents, and the letters, yellow too, bound in neat bundles with tape so stiffened and tired that it parts almost unresisting at your touch. Here are the records of what happened . . . Here is the manuscript he himself wrote . . . telling his story. The letters of his script lean forward in their . . . race against time . . . To whom was he writing . . . ? The answer is easy. He was writing to us.⁸

Finally, I discovered in the University of California, San Diego, online catalog a third volume titled *World Enough, and Time*.⁹ Written by Robert Repetto, the book is an outgrowth of a 1984 conference sponsored by the World Resources Institute, a conference to explore practical steps toward successful management of the world’s resources and environmental and pollution pressures. While Repetto’s focus is not, of course, on the management of the sorts of cultural assets with which we typically concern ourselves, his Conclusion includes a section titled “Implications for Private Voluntary Associations.” I found interesting—and relevant:

In creating public awareness of pressing environmental concerns and political support for the policy agendas that have emerged from the Global Possible Conference, NGOs have a critical role. Leadership will not come from politicians, bureaucrats, and policy analysts, but from the people . . . One key to action is widespread change in perceptions and values, to which, in most countries, governments respond. Private voluntary associations are in the vanguard of these changes.¹⁰

As the clock in the Brand's book is strictly notional, the title of today's program, "World Enough, and Time," is strictly ironic—because, in fact, we have neither.

We are fortunate to have with us today two very distinguished speakers, and an equally distinguished moderator, to speak to the themes I have just outlined.

Our first speaker is Douglas Greenberg, president and chief executive officer of the Survivors of the Shoah Visual History Foundation in Los Angeles. The foundation has collected more than 50,000 testimonies of eyewitnesses to the Holocaust in fifty-six countries and thirty-two languages. The Shoah Foundation is now digitizing and cataloging the testimonies in its archive for use by scholars and educators around the world. Greenberg came to the foundation in 2000 from the Chicago Historical Society, where he served as president and CEO for seven years. Previously he was vice president of the American Council of Learned Societies and associate dean of the faculty at Princeton. He is author or editor of many books and essays on the history of early America and American law, his original scholarly fields, as well as on technology, scholarship, and libraries. Greenberg graduated from Rutgers University with Highest Distinction in History. He took his masters and doctoral degrees in history at Cornell University. He is an elected member of the American Antiquarian Society and a Fellow of the Society of American Historians.

Our second speaker is William Ivey, director of the Curb Center for Art, Enterprise, and Public Policy at Vanderbilt University, an arts policy research center with offices in Nashville, Tennessee, and Washington, D.C. He is also a Senior Fellow at the Center for Arts and Culture, a Washington, D.C., think tank, and chairs the board of the National Recording Preservation Foundation, a federally chartered foundation affiliated with the Library of Congress. He is currently at work on a book about America's endangered twentieth-century cultural heritage. Prior to taking up his responsibilities at the Curb Center, Ivey served in the Clinton-Gore Administration as the seventh chairman of the National Endowment for the Arts, where he was credited with restoring Congressional confidence in the NEA and its work. Before undertaking government service, Ivey was director of the Country Music Foundation in Nashville, Tennessee. Twice elected board chairman of the National Academy of Recording Arts and Sciences, Ivey is a four-time Grammy Award nominee, and is the author of numerous articles on cultural policy, and folk and popular music.

And finally, our moderator is Abby Smith, director of programs at the Council on Library and Information Resources (CLIR) in Washington, D.C. Smith joined CLIR in 1997 to develop and manage collaborative work with library and archival institutions to ensure long-term

access to our cultural and intellectual heritage. Before that, she worked at the Library of Congress, first as a consultant to the special collections research divisions, then coordinating several cultural and academic programs. She holds degrees in history and literature from Harvard and has taught at Harvard and Johns Hopkins. Her recent publications include *Access in the Future Tense*; *Strategies for Building Digitized Collections*; *The Evidence in Hand*; and *Authenticity in the Digital Environment*.¹¹ I shall now leave you in Abby's good hands.

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Andrew Marvell and Satchel Paige in Baghdad

Douglas Greenberg

Let me begin with a confession: I am not sure what I am doing here. I am not a librarian and, although I have spent most of my professional life in and around libraries, I have never really understood what technical services are. On the other hand, I am an inveterate library user and, in another incarnation, I used to run a library-museum-archive. And I am now involved in collecting and preserving what is arguably a digital library, although I do not have to tell you that "digital library" is a vexed designation. As I once said in print, it may be

that if a library is digital, it is not a library. And if it is a library, it is not digital. A library may be an ineluctably analog beast, in other words, and to call a digital collection a "library" may confuse more than it clarifies. But I am getting ahead of myself. As I said, I am not sure what I am doing here. In addition to not being a librarian, I have another disqualification: I have read *The Clock of the Long Now*, and I do not understand a word of it.¹

All of which is a long way of saying I aspire to be pedestrian rather than philosophical in trying to address the question of the library's role in cultural memory. There are some practical problems we need to address, whether we are librarians and archivists or users of libraries and archives—and you can throw in museum goers and curators while you are at it. We need to address these questions whether we know what a clock of the long now is or not. What should we preserve of our cultural life for future generations? How should we preserve it? For what purposes should we preserve it? And, of course, that *most* pedestrian and endlessly fascinating of all questions: in what formats we should preserve it?

In order to get at some of these issues, I want to go back to the title of this session, which comes from a poem about sex. I must say that I never thought I would be speaking to a group of librarians on an assigned topic derived from a poem about sex. Of course, it is a wonderful poem that many of us know: Andrew Marvell's "To His Coy Mistress." You remember the second line of it, I am sure, as well as the first, from which this session derives its title: "If we had but world enough and time, This coyness, lady, were no crime." The narrator goes on, in fairly explicit terms, to insist that what I am told the current generation calls "hooking up" is a pleasure that should not be foregone, since no one lives forever.

I remembered this poem and those first two lines immediately when I saw the title of this session. I am sure you did, too. I had read the poem first at the age of sixteen, when the sentiment expressed in it had—how shall I say this delicately?—special meaning to me. But I had forgotten that the poem also contains a line that is more to the point for those of us who work in and are responsible for institutions of cultural memory: "But at my back I always hear Time's Winged chariot hurry near."

Time, the poet reminds us, is not merely passing. It is *chasing* us. It pursues us and, of course, it eventually and always defeats us. But while we are here, we can hear those wings beating in our ears as the chariot bears down upon us. In libraries and museums and archives, we are always trying to outrun time, and to stay a step ahead of that chariot.

After all, as John Maynard Keynes observed in a different context, "In the long run, we are all dead."² In the meantime, though, this desire to defeat time bears

upon cultural institutions in two ways. First, we must collect materials for our libraries and other institutions of memory before it is too late. And, second, we must preserve what we collect. I will come back to preservation in a moment. What about collecting?

If our successors on this planet are to know us, we must literally scoop up the culture that surrounds us and put it where it may not perhaps survive long enough to outlive the clock of the long now, but where, at least in the medium term, it will survive. Even more important, collecting does not mean today what it meant in the past. It continues, of course, to mean collecting books and manuscripts and photographs and artifacts, but today it also means collecting zeroes and ones—electrons, not merely ink on paper and material culture. Although folks in the world of cultural institutions, including me, have been talking about this new set of responsibilities for a long time, I confess I feel especially aware of them now, doing what I do and overseeing the collection that is in the care of my organization.

Moreover, collecting is even more complex than that. In addition to doing everything we have always done, digital collections are actually of two kinds and each imposes different challenges and opportunities. The first sort of digital collection involves digitizing what has always been in analog form. This is the main sort of digital material that Stewart Brand *seems* to be worrying about in *The Clock of the Long Now*. I am sure I do not need to go into any detail on this. All of us are aware of a multitude of such projects from J-STOR to ART-STOR to the ACLS E-Book project to myriad projects designed to digitize everything from photographs to architectural fragments. Anything that now exists in analog form is fair game for the digitizers.

And that is a good thing, of course, since digital copies are easily distributed and disseminated and shared. In a moment, I want to say something about the preservation of digital objects, but there can be no doubt that the digitization of analog collections improves access to them by eliminating physical distance as a barrier to their use. Still—the dream of universal digital access to the best that has been thought and made in our civilization is a long way from being realized. Until it is, we must continue to literally *make* new collections by digitizing old ones. And they are *new* collections in some important sense because they require different methods of preservation as well as novel approaches to access.

But we have another new collecting responsibility, too—to collect materials that are born digital and have no analog replica. Digital video and digital photos, which a decade ago were high-end products for professionals, are becoming not only ubiquitous consumer products, but also important mechanisms for creating new art

and documenting the culture that surrounds us. The Web itself is a record of our times that needs to be collected, and that changes every day. Databases, once the province of banks and governments, surround us and contain essential information that must be stored and accessed somewhere. Lest libraries be let off the hook as repositories of books and journals only, we need to remind ourselves that both these old analog forms are coming increasingly to exist *only* in digital form. Some sorts of scholarship, in fact, cannot exist in analog form at all because they require the use of data and images and other materials that are too expensive to reproduce in any fashion but a digital one. We cannot let the clock of the long now tick off its ten thousand years before we address the problems of digital collecting.

I could go on, but you all know this story better than I do. Society has given its libraries and other institutions of cultural memory a new set of instructions: collect everything you have always collected. Collect two new kinds of digital materials too in multiple incompatible formats—and do it right away with diminishing money, people, resources, space, and cultural legitimacy. While you are at it, make it all universally available on the Internet. Now I know why I am not a librarian. I do not have the necessary masochistic drive!

I say this having, in my current job, some small experience with this problem and with its concomitant problem: preservation. Collecting was the be all and end all of the Shoah Foundation when it was founded: collect fifty thousand video testimonies of survivors and other witnesses to the Holocaust before it is too late. In other words, do a very difficult job as fast as you can because if you do not, you will not be able to do it at all. In that sense, the work of the Shoah Foundation in its first decade has been to collect and to preserve simultaneously, since this is a case in which collecting video testimonies was undertaken in the service of preserving what they record: memory. Now that we have the testimonies, however, we must preserve *them*, which is not an easy task. Our collection is actually an epitome of the preservation questions that all institutions of memory must face, so I want to explain them briefly not as an exercise in organizational self-congratulation, but as a way of exemplifying the larger issues that digitizing and digital collecting present for institutions of memory.

Our 52,000 testimonies, nearly 120,000 hours of video and close to 200 terabytes data, were originally collected on the video standard of the day, Beta SP analog tape. They were immediately digitized on DigiBeta tape and copied to VHS tape, and now most have been digitized as three megabit per second MPEGs. The result is multiple formats for multiple purposes, the details of which I will not go into here. But think about the preser-

vation issues. The original document is the analog Beta SP; everything else is a digital replica, but *not* the thing itself. For how long should we preserve the analog originals? For how long *can* we preserve them? Preservation and conservation of such materials is a scientifically complex proposition since no one knows how long the tape will last, even in pristine environmental circumstances.

This raises the most fundamental question, a question that must be addressed for all sorts of collections of cultural materials, not only our own. What should be preserved in any event—the information or the object, the tape or the interview on it? Only the analog version can be said to be a full representation of the original interview. A digital photograph of the Declaration of Independence is not the original, no matter how high the resolution of the photo, no matter how clever the verisimilitude of the paper on which it is printed.

Video is even more complicated. Transcripts clearly will not do the trick since they remove the very information—sight and sound—that distinguishes video from other formats. Yet too much use of the original analog tapes will eventually destroy them, no matter how carefully they are preserved. They are the rare books of our time. In addition, the digital replicas—at a time when Holocaust denial remains a real danger—can be alleged to be mere digital creations, manipulations of zeroes and ones that have the appearance of truth, but not the reality of it. Only the original analog tapes can be said to hold all the information captured at the moment of the original interview. But there is a physical limit to how long they can be preserved that is imposed by the chemistry of the tape itself. It turns out that the most long-lasting preservation format for our interviews is an analog medium: 35mm film. So perhaps we should “analog-ize” our digital resources, just as we are digitizing our analog collection, and reverse the process completely. It would only cost us about \$80 million.

So I *do* hear time’s winged chariot beating in my ears, and other voices whisper to me, asking such questions as: What is the point of preservation anyway if we do not pay attention to access? And who will control all this material anyway? Aren’t those questions as important as issues of collection and preservation?

Like it or not, therefore, I have to say a few words about intellectual property. Much has been said and written on this subject and about the challenges it presents in the electronic environment. There is no question that the ease with which digital materials can be copied, altered, and redistributed presents real challenges to cultural institutions committed to expanding their collections electronically. On the other hand, an obsession with intellectual property can be a huge barrier to providing access. I speak from the experience of my

own organization when I say that intellectual property concerns can overwhelm and endanger the missions of institutions of cultural memory.

At the Shoah Foundation, although we own all the underlying intellectual property in our of video testimonies, we have privacy concerns that must be addressed, and we also have the real danger of Holocaust deniers misusing our archive to advance their cause. As a result, we have also had, until recently, a predisposition to permit intellectual property concerns to overwhelm the requirements of access. Shifting from an internal culture in which the protection of the intellectual property dominated to one in which access is the central objective has not been an easy thing to accomplish, especially for an organization that not only owns the intellectual property but also actually *created* it. In some sense, the best way to protect electronic intellectual property would be to prohibit access altogether, lock up our collections in a vault, and be done with it.

And yet the Shoah Foundation archive—including the excruciating memories of eyewitnesses to the greatest crime of the last century and painstakingly gathered in fifty-six countries and in thirty-two languages—was collected for a reason: because we believe the testimonies and the faces and voices they encode have important, even essential and world-transforming, work to do. For us to allow our fears with respect to intellectual property to overwhelm the imperative of providing public access would be to turn away from our mission—and that would be a much more irresponsible act than opening ourselves to the occasional and, in my judgment, unlikely possibility that someone will steal and misuse our intellectual property. The same thing goes for every institution represented in this room.

This brings me to my penultimate point. Are cultural institutions really prepared to offer access to materials that are not digitized from some other medium, but digital in the first instance? It is one thing, in other words, for a museum or library to digitize a collection of photographs or a manuscript or a book. Are our institutions really prepared to offer access to—no less than to store and preserve—materials that exist *only* in digital formats? What are we to do with digital audio files, the papers of public figures that are delivered to archives on disk or even by FTP, or digital video files or databases of cultural, political, economic, or social information? These are not easy questions, but I find myself asking them because the collection of the Shoah Foundation is just such a collection.

Over time, more and more of what we store and offer will originate digitally and will have no analog representation at all. The *only* way to use these materials will be electronic. What will we do to ensure that

today's digital files will still be readable and usable on tomorrow's machines? Paper may be old-fashioned, but it works pretty much now as it did a hundred years ago. The same cannot be said of the digital media we were using even ten years ago. Do we have any idea about how we will handle this sort of material, how we will establish provenance, how we will catalog and index it, how we will store it, preserve it, and, most important, make vast quantities of it available and accessible to users that are likely to become more and more comfortable with material in this format and *less* and *less* comfortable with material in antique analog formats, such as books? Stewart Brand may have it right when he says that people like us have no good answers for these kinds of questions. We must do whatever we can to prove him wrong.

Institutions of cultural memory *must* begin to answer these questions, and the reason to answer them is that the educational mission of our institutions requires it. As publicly responsible, educationally driven institutions we must better understand and anticipate the requirements of the new age in which we live. If we fail to do so, we will not only imperil the responsibility to democratic civic education that ought to be at the heart of everything we do, we will also, ironically enough, endanger both the collections of the past and the collections of the future. In so doing, we will abandon not only our institutional purposes, but memory itself.

It is often said that museums, libraries, archives, and other cultural institutions are the essential links between past and present. The job of those who manage them is one whose main obligations are fiduciary, literally to hold materials in trust and to transmit both their physical reality and cultural significance across generations and geography. These institutions thereby reflect not only who *we* are *now*, but also what *others* were *then*, and what *we* and they will be in and to the future. Our responsibility in the moment is to respect both the physical and metaphysical integrity of the materials we collect and preserve in our libraries.

Let me close, then, by coming back to the beginning. Andrew Marvell cautioned us that time's winged chariot was at our backs. The national museum in Baghdad held in its care and had preserved the record of a civilization centuries gone, gone for so long, in fact, that people all over the world assumed that we *did* have world enough time and that time's winged chariot would never catch up with the precious and long-preserved heritage of the civilization of ancient Mesopotamia. But the American invasion of the Tigris and Euphrates valleys gave the lie to those assumptions and showed us that with or without the clock of the long now, whether digital or analog, the task of cultural memory must be pursued actively. Two years ago, we discovered that we did *not* have world

enough and time, as other things seemed more to merit protection and preservation than the memories of a sublimely significant and uniquely venerable culture.

So I think that Stewart Brand must be a fine fellow, and the clock of the long now might even be a good idea. But I am an historian, and I also believe, as we saw so shockingly a year ago in Baghdad, that if someone can build it, someone can destroy it. I guess I think that Andrew Marvell had it right about time when he wrote “To His Coy Mistress.” If seventeenth-century English sex poems make us uncomfortable, however, we can also turn to that most poetic of all *American* arts, baseball, and consult the most inimitable of its bards, Satchel Paige, who reminded us: “Don’t look back. Something might be gaining on you.”³

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The Looming Loss of Intangible Heritage

Bill Ivey

During my tenure as National Endowment for the Arts (NEA) chair, hundreds of bright, energetic people inside and outside government devoted countless hours to advancing the budget of the arts endowment. But, as great as it was to see that annual appropriation rise by seven million or ten million dollars, I gradually became convinced that the intense focus on the well-being our cultural agencies—as though they constituted the entirety of government cultural policy work—distracted arts specialists from a set of policy questions that are, in the long run, of much greater consequence than the size of the NEA’s budget.

After all, during the Clinton/Gore Administration, the term of copyright was extended, media ownership was deregulated, and, through the Digital Millennium Copyright Act, the duplication of intellectual property was criminalized. The cultural impact of any one of these legislative or regulatory actions dwarfs that of the NEA’s entire budget, but the cultural community—with, I must acknowledge, the exception of some engagement by the library community—was not at the table when these transforming public policies were open to debate and modification.

Even today, leaders who care passionately about art and creativity act out the narrow, distracted approach to cultural policy that allowed us, by and large, to miss many of the key legislative and regulatory debates of the past fifty years. (In part, this failing is the result of excessive policy focus on the funding needs of nonprofit, refined arts organizations. But that is another subject for another essay.)

In this presentation, I want to zero in on one problem produced by America’s failure to generate a broad conversation about art and the public interest, and discuss a looming crisis in the cultural heritage of our nation—a crisis that, without a prompt and effective response from arts policy leaders, will severely damage our nation’s ability to recast art of the past as the creativity of the future, and significantly limit our children’s ability to engage democracy’s artistic legacy.

My focus here is twentieth-century cultural heritage—specifically, the recordings, movies, and radio and television programs that contain so much of America’s art making of the past one hundred years. Generally, we can refer to this piece of our creative past as “intangible heritage,” thereby indicating that the artifacts (master film prints, metal recording parts, original audio and video tapes) involved possess negligible object value, but may function as containers for priceless original chunks of America’s performing arts past—content that is the cornerstone of America’s cultural memory.

This category of cultural artifact was new in the early twentieth century. Before that time, after all, musical and dramatic performances were fleeting experiences restricted to a single time and place. If you wanted to hear a Sousa march twice . . . well, get the band to play it again. If you wanted to learn the blues . . . well, take the train to Memphis, a horse and carriage into northern Mississippi, and hope that Robert Johnson or his forbearers were playing in the roadhouse the night you came along.

In fact, sound recording, motion pictures, then radio, and later television made possible a new kind of art product. Music, drama, dance, and comedy could now be permanently fixed; that is, preserved over time, moved from place to place, rented, bought, broadcast, and sold.

Library professionals wrestle with intellectual property issues every day—the costs of engaging culture. I would assert that many of the challenges generated today by copyright and its cousins, trademark and name-and-likeness rights—what could be characterized as the expanding footprint of copyright—arise from the unique character of these twentieth-century arts products.

How were these new arts products different? Historically, copyright resides with the individual who creates a work. Authors basically rent their copyright to

book publishers, and so on. If anything, this principle has been strengthened during the past fifty years, as the notion of presumed copyright retention was extended to visual artists, journalists, and other segments of the creative community.

Recordings, films, and broadcasts are of a different order, however. Because these art forms are inherently collaborative, and because they must be financed in advance of their ability to earn income, the copyright to these twentieth-century arts products resides with the corporation that organized and financed the movie, record, or radio and television production.

Thus, the accumulated creativity of the past century is, simultaneously, cultural heritage and corporate asset. The jazz solos of Louis Armstrong, the films of Orson Wells, the dance of Fred Astaire, the comedy of Jack Benny are, for intents and purposes, owned by multinational media corporations.

This merger of heritage and asset is significant for a couple of reasons, but foremost because this material is important. It may be fair to argue that, in the eighteenth and nineteenth centuries, the United States actually was a second- or third-rate cultural producer. However, once technology bestowed the permanence of print on America's vernacular performing arts, the democratic tapestry that defined our nation's art making was available across the land, and, ultimately, around the world. Jazz, blues, country music, and drama captured on film; comedy, drama, and music on radio; televised young people's concerts; Elvis on the Ed Sullivan Show—I would argue that, in aggregate, these multiple performances constitute the most important visible metaphor for the nature of our democracy, and the best window into the evolution of our nation's diverse, twentieth-century society. This stuff is important and there is a lot of it.

How much? In the archives of major record labels (Warner Brothers, Universal, Sony, BMG, and so on) are more than three million master recordings, and many of these are multicut metal discs or tapes. In film, once again considering only major studios such as Universal, Fox, MGM, and Warner Brothers, archival holdings total about 26,000 master prints. In television, there exist on the order of 400,000 entertainment film and tape masters in the collections of the big three networks, and none of this counts masters held by recording studios, independent record and film producers, cable networks, or entities such as Doug Greenberg's Shoah Foundation.

So, twentieth-century intangible heritage is important, and there is lots of it. And, as you would expect, some has been lost. Back in 1963, RCA Records (now BMG), in an effort to reduce its inventory of warehouse space, dynamited one wing of a master-disc archive into the Delaware River, eliminating both the structure and

its contents. The great early blues radio show, King Biscuit Time, has been lost, as have all the tapes of pioneering disc jockey Alan Freed's earliest work in York, Pennsylvania. The kinescope of Johnny Carson's debut *Tonight Show* has vanished, as have all of James Dean's TV appearances from the 1950s, and MGM threw out many of the original scores to the studio's 1930s musicals. The sad tale goes on and on.

However, not much is to be gained by lamenting losses of the past. I stated in my introduction that I saw a looming crisis in preservation and access. I want to turn to why I think twentieth-century intangible heritage is more at risk now than ever before, and touch on a few suggestions as to how we might right the balance between heritage assets and the public interest.

Here are a few of the specific problems that make the preservation challenge more vexing than in the past. First, technological advances of the past twenty years have created a hardware and software Tower of Babel. When I moved to Nashville in 1971, sixteen-track analog audio tape had just become the industry standard for studio masters; within a few years thirty-two-track, then sixty-four-track, two-inch machines followed. Then early digital formats popped up, included various incarnations of Beta, which quickly were superseded by various formatted computer hard drives, and so on. From 1920 until 1950, most audio masters were metal discs; from 1950 until 1980, most masters were quarter-inch stereo or mono tape recordings. After that . . . Katy bar the door! A modern master may be nothing more than a few data points on a computer hard drive. And, of course, the same thing has happened in moving image media. In fact, technology has handed us a problem unusual in archival work—the past quarter century is much more vulnerable and much more difficult to access than audio and moving image media of the preceding seventy-five years.

Another point to consider is that corporate mergers and acquisitions have forced together vast archival holdings into the combined collections of a few multinational corporations, most of which are not headquartered here in the United States. The trend is marked. In 1925, the film industry boasted fifteen distinct, American-owned studios; today there are seven, and only Disney and Warner Brothers are American-owned.

The change has been even more dramatic in recordings. There were twenty-seven American record companies as recently as 1960; today there are five (four if the BMG/Sony merger goes through), and none is American-owned.

Companies that own America's heritage assets are, for the most part, divisions of multilayered media corporations. Top-down decisions involving preservation

and investment in the release of historical material are today often made in remote corporate headquarters. Uninvolved management and the focus on quarterly performance and shareholder value do not constitute a nurturing environment for intangible heritage.

In addition, the retail environment has grown increasingly hostile to the distribution of niche products. More than a third of all CDs are sold by Wal-Mart, Best Buy, or Target. These big box retailers use bargain-priced audio and video product to steer customers through stores to generate impulse purchases. By stocking only a narrow selection of sure-selling hits, retail chains devalue historical product, inadvertently discouraging both preservation and access.

Earlier, I indicated that the transformation of performances into arts products during the twentieth century was, in part, responsible for the growing footprint of copyright. The unfettered power of corporation-controlled copyright is, in my opinion, the biggest impediment to the development of an appropriate connection between Americans and our twentieth-century artistic heritage.

To be fair, the impact of corporation-controlled copyright has not been all bad. We must acknowledge that, over the years, the art-as-asset model encouraged investment and risk-taking. The very development of modern arts companies was made possible by the work-for-hire concept and by the related ability of corporations to attach multiple revenue streams to arts assets over long periods of time. And, the extent that the master discs and prints of the recordings, films, and broadcasts of the past century have been preserved can be attributed to corporate copyright holders presuming that these originals will maintain sufficient value to justify archival investment.

But I believe things have gone too far. Flexing lobbying power to extend the government-protected monopoly of copyright over time and space, corporations have pushed the term of copyright to ninety years and beyond, effectively locking up heritage assets produced over the entire era of film, records, and radio.

Fueled by fears that digital duplication will allow licensed assets to escape, copyright owners have increasingly limited access to historical material by increasing license fees or by simply saying no. Just try producing a TV series titled "Great Songs and Dances from Thirties Musicals." You cannot produce it because you cannot pay the footage fees, sync licenses, and so on.

We must remember that, in the case of our nation's artistic heritage, access is every bit as important as preservation. When public policy intervenes to protect the natural environment or when a threatened historic structure or monument is threatened with damage or

destruction, preservation may, in such cases, be sufficient. In fact, policy debate within the environmental and historic preservation movements has been almost entirely about preservation.

But, that is not enough for us. Preserving *Gone with the Wind* does not mean much if:

1. You can not watch it, or . . .
2. You can not record a clip for your students, or . . .
3. You can not (as Margaret Mitchell's estate claimed) even reshape the characters from the novel or film into a new artistic creation, or . . .
4. You can not easily anthologize parts of the original work to help tell the story of America.

And the same holds true for *Heartbreak Hotel*, *I Love Lucy*, and so on.

In conclusion, I would like to make a few recommendations about how we might proceed to create a more appropriate balance between the interests of heritage asset owners and the public interest in preservation and access—assuming agreement with the belief that our twentieth-century intangible heritage is important, and that, as corporate asset, it is inadequately protected and insufficiently available.

First, as I suggested previously, we need to back up and take in a wider view of what constitutes cultural policy in a decentralized, market-driven democracy like ours. The intense focus of policy work on the concerns of nonprofit arts organizations and their government analogues has grown to be unhelpful. We should look at the Federal Communications Commission, the Federal Trade Commission (FTC), the Office of the U.S. Trade Representative, and key Congressional committees as cultural policy actors, and as potential partners in shaping America's cultural landscape. Likewise, we should see corporate policy and the actions of key arts industry leaders as cultural actors and as partners and points of leverage enabling cultural policy reform.

More specifically, we must acknowledge that questions of preservation and access surrounding heritage arts assets can best be addressed by advancing public policy. My record- and film-collecting friends like to criticize, harangue, and menace arts companies, but that will not work—a studio has no obligation to think like a preservation-oriented nonprofit organization. If we care about opportunities for our children to engage America's creative past, we must craft legislation and regulation to mandate a responsible commitment to preservation and access. And, we must go further to apply some level of public investment or incentives to the process; it can no longer be left to the whims of the marketplace.

Following are four regulatory or legislative interventions that could make a difference:

- Generate tax and other incentives to encourage arts industries to preserve and make available older, less-valuable, but historically significant archival holdings.
- Craft legislation that defines fair use as an approved set of actions, not simply as a vague defense against an infringement lawsuit.
- Find a way to commit public dollars to those institutions that are currently preserving our cultural heritage—the Library of Congress, the

Smithsonian Institution, and the network of non-profit organizations that maintain archives of heritage arts products.

- Use the FTC as a regulatory backstop to protect heritage assets by requiring a cultural impact plan in advance of any approved merger or acquisition in our cultural industries.

If we forge new alliances, seek new partners, support the good guys who care about heritage, we can craft an effective arts policy community that will work to insure the permanence of America's cultural memory.

Archival Products
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Use of General Preservation Assessments

Process

Karen E. K. Brown

This paper describes the typology of general preservation assessments and investigates what is being accomplished based on recommendations identified in the process. The author characterizes the assessment based on tabulated data. A range of institutional types and sizes are represented. The investment of staff time and the role of the consultant are examined. The most frequent goal of respondents was to develop a preservation plan. Interest in repair and reformatting was significantly less than interest in preventive activities. The findings of this study suggest that assessment reports are thorough and organized; report content is consistent across the population studied. The study informs future assessments by defining current practice through the collection of concrete data on specific representative measures.

Over the past quarter century, general preservation assessments have assisted organizations to understand factors that affect the long-term care of their collection. By evaluating policy, practice, facilities, and collections, preservation needs are determined and prioritized, and resources for implementation identified.¹ The fundamental goal of the general assessment is to provide a fully inclusive review of current circumstances and projected risk, and, by doing so, assist a collecting institution in developing a preservation plan.² The findings can help to reallocate existing resources, secure additional funding, raise awareness, and even define the extent of the preservation problem on a national scale. If the study method is reliable and institutional efforts at implementation are continuous, the outcome is a comprehensive preservation program that efficiently and effectively addresses risk in all areas of operation.

Since the late 1970s, authors, including Cunha, founder of the Northeast Document Conservation Center (NEDCC), have emphasized the study and understanding of preservation needs for libraries, museums, and archives.³ Tools and texts have been developed that together provide a reasonable paradigm to help ensure that a general assessment of preservation needs is complete and that the findings are practicable.⁴ However, most methods emphasize the survey process itself; little research has been conducted to identify actual outcomes associated with these assessments. Further, neither funding agents nor cultural institutions are collecting concrete data that accurately reflect the extent to which the goals of preservation programs are being achieved.

Uncoordinated, unplanned preservation activities can result in some areas of need being overlooked. Sporadic efforts to protect collections may demonstrate an interest in preservation, yet without a strategy, resources likely will not

be well-allocated, and long-term goals will not be achieved. The purpose of this study is twofold: to define current practice and to examine the use of general preservation assessments to determine what is being accomplished based on recommendations provided in the process. Based on data collected from 125 institutions in the United States, this research attempts to gauge the output of general assessments and the extent of preservation programs by examining the implementation of recommended actions.

This research seeks to answer the following questions:

- What types of institutions are conducting general preservation needs assessments?
- How much staff time is needed for the assessment and what are the major goals?
- What topics of concern are being considered?
- What is the content and structure of the report of findings?

This paper characterizes the assessment process and appraises key elements (topical coverage, phases of the study, report contents, and so on), providing a baseline for how the North American model of a general assessment is defined and undertaken. The data's value is to inform future assessments through the collection of concrete data on specific representative measures. The author plans a second paper, "Use of General Needs Assessments: Outputs," that will report what preservation actions are being realized as a result and characterize those attributes of the general assessment methodology that can be labeled as best practices. Factors that facilitate program success and reasons for limited development also will be explored.

Literature Review Assessment Methods

Three primary methods are used to study the problem of collection deterioration: general preservation assessments, collection condition surveys, and item-by-item surveys.⁵ The approaches are complementary, proceeding logically from the universal to the specific. Brief definitions of the three types of review provide a perspective on the use of the general preservation assessment process, which is the focus of this study.

The first method, the general preservation assessment, concentrates on the physical environment as well as on the activities, organizational policies, and resources that coalesce into an understanding of all the factors that can affect care of collections. While methods vary in their categorization of topics and the types and uses of data collected, they are typically broad in scope and include information about:

- the administration (mission, collecting policies, intellectual control, staffing/training needs, budgets);
- the building and facilities;
- environmental factors (monitoring and control of temperature, relative humidity, light, pollutants);
- protection against loss (pest management, emergency preparedness and prevention, security);
- the condition, storage, and handling of collections in various formats (including exhibition); and
- remedial treatment (reformatting, repair and conservation, library binding).

The review is intended to be general, although discrete groups of resources may be reviewed for evidence of damage to support identified risks or to recommend specific actions to reduce risk to that group as a whole. Follow-up reports are descriptive in style and emphasize damage prevention by identifying and controlling extrinsic agents of deterioration. This preventive approach is agreed to be central to preservation management because it benefits the collection as a whole and is more cost effective than remedial care.⁶ The purpose is not to quantify the scale of the problem, but rather to define need and initiate a planning process that will allow the institution to reduce risks to the collection and better allocate resources for preservation over time.

The second type of review is a statistical study referred to as a collection condition survey. It provides the next level of detail by gathering evidence of damage to the collection itself. By examining a representative sample of its holdings, an institution can predict the cost of action extrapolated to a larger population. Most library surveys that examined the problem of brittle and deteriorated paper in the 1980s were collection condition surveys, although they also testify to the importance of surveying collections more generally.⁷

The third approach, the item-by-item survey, is the most detailed. Its purpose is to provide data about each object under consideration in order to estimate the cost of remedial care on an individual basis and to plan for treatment. An item-level survey also may show which collections are the highest priority, and could include investigation into exact mechanisms of deterioration.⁸ Verifiable facts and figures reported from quantitative methods of examining library collections afford useful information and have proven effective in gaining administrative support and securing funding for preservation action.⁹

All three assessment types are valuable as tools for informing administration about their building environments, materials storage and handling, and collection condition and management, enabling them to develop a preservation program. The progression of study from the universal to specific ensures that overall risks have been addressed before expending significant resources on further study and remedial action. For example, like many funding agents, the

New York State Library (NYSL) requires a general preservation assessment before applications for implementation through its Discretionary Grants Program will be considered.¹⁰ Others concur: "The general assessment . . . is now a basic requirement for institutions wishing to receive funds from many federal and private sources."¹¹ One can argue that preventive activities will extend the useful life of collections and that correcting external factors will reduce the sustained cost of repairing, reformatting, or replacing large numbers of material.

General Assessment Attributes

No single North American tool has been designed to study all types of cultural institutions. Because so many general and overlapping categories of review exist, exploring the development of assessment methods may be useful in order to develop a foundation for current practice.

One of the earliest references to the use of a general assessment is included in *Planning for the Preservation of Library Materials*, published by the Association of Research Libraries (ARL) in 1980.¹² A copy of Cunha's report of a preservation survey at the University of Utah Libraries is included as an example of how outside consulting can provide the impetus for establishing a preservation program.¹³ Cunha authored *What an Institution Can Do to Survey Its Conservation Needs*, a tool that has seen multiple versions since it was first published by NYSL.¹⁴ The latest version, *Assessing Preservation Needs: A Self-Survey Guide*, is one of the most current self-survey tools available for use by small to medium-sized institutions to assess their own preservation needs.¹⁵ The guide also can assist professional consultants to help ensure the review is thorough and the information gathered is well-organized. Each topical section includes an introduction describing best practices followed by a worksheet with a series of questions that the institution attempts to answer to gauge its needs. This guidebook is not designed to address the needs of general circulating collections, focusing instead on historical collections in paper format.

Cunha points out that the survey is not a plan, but that it will help institutions identify risk, consider the value of items in the collection, develop recommendations for action, prioritize needs, and identify action steps: "The repository will then use these priorities, together with other relevant issues, such as available institutional resources and political considerations, to create a preservation plan that sets forth a specific schedule for accomplishing particular projects."¹⁶

Patkus asserts that a systematic preservation program, or plan, ensures that scarce resources are used effectively, "and that important preservation activities are not neglected."¹⁷ Patkus' work, while useful, suffers from a lack of information regarding implementation of findings. The brief section

on preservation planning and implementation is limited to information previously presented by NEDCC.¹⁸

In the 1980s, ARL began a multifaceted, complex program to assist the organization and implementation of a preservation program by its members. ARL's *Preservation Planning Program: An Assisted Self-Study Manual for Libraries*, by Darling and Webster, and its accompanying *Preservation Planning Program Resource Notebook* are based on research conducted with support from the National Endowment for the Humanities for the design and testing of "a self-study procedure to enable academic libraries to identify and address preservation problems."¹⁹ As a basis for formal study, the process described is labor-intensive, suggesting that success in establishing a program is contingent on a significant investment of staff time. Completion can involve approximately two dozen people over a period of up to six months, as well as outside consultants to provide training and evaluation of progress (although the tool can be adapted by smaller libraries where a less formal or exhaustive approach is preferred).²⁰ The *Resource Notebook* is a companion manual with further information drawn from the published literature.

Darling and Webster's outline of study activities forms the foundation of what can be expected in a general preservation assessment. These include preparing for the planning study and establishing the study framework (Phase I), determining preservation needs (Phase II), and planning the preservation program (Phase III). Identifying and documenting the library's preservation needs and the resources that might be employed to meet them is central to the investigation. Although much of the technical information is out of date, the general approach is comprehensive, reasonable, and still can assist with design of a preservation program.

In 1995, the Canadian Council of Archives published *The Conservation Assessment Guide for Archives* by Dalley.²¹ Unlike the NEDCC and ARL tools, this guide was designed for use by a trained conservator with qualifications in archival conservation, preservation planning, the nature of archives, and environmental systems. This text proposes standardized guidelines to assess the effect of policies, procedures, facilities, storage, environment, disaster management, and staff on the preservation of archival holdings. The author describes the assessment as "the first step of the preservation management process which integrates preventive conservation (preservation) into all archival activities."²² For example, the report guidelines prompt the evaluation of the institution's administration and how preservation and conservation has been considered in financing, long-range planning, mission statements, policies, arrangement and description, and so on. Dalley clearly delineates the responsibilities of the consultant and the institution for the process. Although designed for use in archival institutions, it can easily be adapted to study library collections.

In the 1990s, two similar software applications were developed in an attempt to standardize a study method and compare findings across a defined population. Calipr was produced by the University of California at Berkeley to enable the California State Library to study statewide needs and develop the California Preservation Plan.²³ Another version of Calipr, the PreNapp, was developed by the Research Libraries Group for its members as part of their *Preservation Needs Assessment Package*.²⁴ These tools are used to produce reports about general needs based on a random sample of four hundred items from the collection itself. The programs are designed to generate recommendations to improve access (such as inventory control and staff education), housing (including emergency planning and environmental control), and condition (through rebinding, repair, use of enclosures, or reformatting). A combination of access and housing problems indicates exposure to risk, which, when coupled with condition, defines the level of risk based on these three factors. The preservation priority for collection materials is further determined by examining value. While useful, the programs alone cannot form the basis for long-term preservation planning; they require the institution to carry out further feasibility studies based on institutional technical and management capability and available resources. General recommendations for preservation action are generated, but no further information beyond a list of published resources is provided to assist implementation.

Emulating Calipr, efforts to assess preservation needs in the United Kingdom and Australia have focused on developing national preservation strategies that are based on aggregating identified needs in individual libraries, museums, and archives. The result has been the development of benchmark schemes that attempt to define levels of performance that can be compared among institutions.²⁵ Bell and Lindsay contend that the North American general assessment is subjective, that the data collected cannot be used for comparative analysis between institutions, and that progress cannot be measured over time.²⁶ The benchmark approach, on the other hand, was designed to define levels of performance as basic, good, and best practice, so that institutions, through self-study, can identify the strengths and weaknesses of collections care. Artlab Australia, with the History Trust of South Australia and the State Library of New South Wales, has recently published their efforts to study preservation needs at a state or national level.²⁷ Their efforts are more far-reaching. They have worked to design a tool suitable to the broadest possible range of cultural institutions. The philosophy behind the tool suggests that use of a standard for risk assessment will lead to: (1) more transparent and accountable assessments; (2) a stronger emphasis on stakeholder consultation; and (3) more practical reports to help ensure responsible management by cultural caretakers, as well as equitable review by funding agents.²⁸

General assessments of museums funded by the Institute of Museum and Library Services (IMLS) through their Conservation Assessment Program (CAP) in the United States differ from benchmark schemes in their emphasis on the individuality of the review, with less attention to aggregating data and more attention to specific actions that are required to reduce risk. *The Conservation Assessment: A Tool for Planning, Implementing, and Fund-raising* was first developed in 1988 to improve the usefulness of assessments by defining the parameters of a comprehensive survey.²⁹ In 2002, a panel of CAP assessors worked together to try and define best practices for general assessments, reporting that although *The Conservation Assessment*, “provides a framework for the information CAP reports and site visits should cover, CAP assessors are not required to fit into a particular mold, nor is there an interest in standardizing reports.”³⁰ A later edition, version 9/99, *The Conservation Assessment: A Proposed Model for Evaluating Museum Environmental Management Needs*, was developed by the Getty Conservation Institute.³¹ Getty further emphasizes the individual nature of the study and the importance of understanding the institutional context to ensure that “broad strategies for environmental management . . . address the specific needs of the collection within the limitations of the climate, building, and institutional resources.”³² It argues that the physical environment and organizational environment interact, and that outside expertise is required to make certain of the success of the study:

Past experience has shown that successful conservation assessments involve technical evaluations and critical judgments that go beyond the observation and documentation of the conditions manifested by the building or collections. Architectural and collections assessors rely on education, experience, skills, inquiry, deductive reasoning, collaboration and qualitative analysis to arrive at recommended strategies for environmental management. As might be expected, the analytical processes are highly individualistic and may even vary for the same professional when assessing different museums.³³

In addition to IMLS, several funding agents in the United States provide substantial financial support to help organizations that are interested in preservation planning to undertake a general preservation assessment, including NYSL and the National Endowment for the Humanities. Application processes help to ensure that institutions are recognized nonprofit organizations with staff, a mission, and mandate; the collections have value and have been reasonably ordered and described; and efforts are being made to protect materials during storage and use. Funding agents also may favor applications in which recognized

experts are committed to conducting the assessment. A self-survey also can result in a useful framework for coordinating preservation efforts. However, expertise, objectivity, and a degree of credibility may be lacking with the North American models.³⁴ These shortcomings may limit the institution's ability to apply successfully for external funding to implement recommendations.

Many general preservation assessment models have been developed, described, adopted, and utilized to help institutions identify risks to their collections, propose and prioritize corrective actions, and assist with the development of practical plans. Most are useful in defining the responsibilities of the host institution and consultant, the scope of topics that should be reviewed, and how findings should be presented in a final report. Efforts have been made to standardize the study method, and assessors have discussed best practices, both in the United States and abroad. Interests in Australia and the United Kingdom have worked to define activities that represent best practices for preservation, or benchmarks of collections care. The popularity and persistence of several major funding initiatives, including the NYSL Discretionary Grants Program, the Preservation Assistants Grants offered by the National Endowment for the Humanities (NEH), and IMLS's CAP, suggests that general preservation assessments are valuable for guiding cultural institutions. However, few data define what is being undertaken or demonstrate its impact. No data correlate preservation activity to having conducted a baseline assessment, and no published information exists that quantitatively describes the effectiveness of general assessments. Based on the methods described in the literature, one must first define the typology of general assessments in order to later relate product with process.

Study Method

In fall 2003, questionnaires (see appendixes A and B) were mailed to 306 United States institutions that were identified as possibly having undertaken a general preservation assessment. Most of these institutions received public funding to support a preservation project, either through NYSL's Discretionary Grants Program or NEH's Preservation Assistance Grants program. Others were identified with support and assistance from NEDCC, which receives public funding to assist institutions with preservation surveys, training, and education. Those that had undertaken an assessment were asked to complete the questionnaire based on their most recent study (assuming the process could have been carried out more than once in the institution's history). The individual(s) most closely connected with the assessment process were asked to complete the questionnaire, consulting the survey report or other records to ensure the accuracy of their replies.

The survey instrument (see appendix) consisted of two parts. The first part provides a profile of the respondents and collects data about their goals and activities before and after the actual site visit, including how long after the site visit the institution was able to implement findings. It also asks about the involvement of the expert conducting the review, including time spent on site, what topics were considered, and follow-up services. The second part is a list of typical recommendations that might be given in a report of findings. Responding institutions were asked if each item had been recommended, and if so, whether or not that action was accomplished. Finally, participants were asked to identify conditions that might have hindered their ability to implement preservation recommendations, and to comment on how the assessment process could have been improved. Follow-up questionnaires were sent to respondents who did not return their questionnaires after six weeks.

In total, 188 questionnaires were returned (61.4 percent) with 36 institutions reporting that they had not had a general needs assessment, and 24 abstentions. Three questionnaires were deemed invalid, either because the institution was reporting on more than one study, thus confusing the results, or because entire pages of the form were left blank. The research results are therefore based on 125 completed questionnaires (40.9 percent). The respondents represent institutions in 29 states, including 102 located in the northeast (primarily Massachusetts and New York), 11 in the west and midwest, and 12 in the southern United States. The data from the questionnaires were analyzed using SPSS version 11.5.

Results

Who Are the Respondents?

Of the responding institutions, 43 (34.4 percent) were colleges and universities (academic institutions), and 44 (35.2 percent) were public libraries. Of the remaining, 11 were museums, 8 were historical societies, 6 were archives, 2 were independent research libraries, and 11 were "other" (including 2 secondary school libraries, 2 government agencies, a nonprofit educational corporation, a theological seminary, and a "cultural institute"). These remaining participants (38 total, or 30.4 percent) are in some cases combined to facilitate statistical analysis of the data. For the purpose of comparison to peer institutions, categorization of institution type by primary function was preferred for this research as it helps to avoid confusion arising from signifying particular departments and units within colleges, universities, or other larger institutions. The types of institutions served by NEDCC, NYSL's Discretionary Grants program, and NEH Preservation Assistance Grants include those with research

materials (libraries, archives, historical societies, and so on), as well as town and county records offices, and museums. The NEH guidelines about the types of institutions and collections that will be funded are much more broadly classified as “humanities” collections, and “may include special collections of books and journals, archives and manuscripts, prints and photographs, moving images, sound recordings, architectural and cartographic records, decorative and fine arts, textiles, archaeological and ethnographic artifacts, furniture, and historical objects.”³⁵

Each institution defined its total institutional staff as an indicator of the size of the parent organization, scope of the collection, and scale of the general assessment. This indicator was chosen, as opposed to other options such as size of the collection, because comparing different types of collections is difficult. By using staff size as a measurement, one also may gauge the amount of time an institution can apply to the general assessment process and to the implementation of findings. Sixty-one institutions are relatively small, reporting 19 or fewer staff members. Thirty-nine institutions have between 20 and 69 staff; and 24 are relatively large, with more than 70 staff members. The greatest number of respondents (34, or 27.2 percent) has a staff size of 10 to 19. Of those institutions with more than 100 staff members, 11 are academic. The data on staff size by type of institution are presented in table 1.

Participants estimated how much staff time they devote to preservation activities as an indicator of the level of institutional commitment and interest in preservation (see table 2). The majority, 64 (51.2 percent), reported less than 0.5 full-time equivalent (FTE) staff time devoted to preservation, followed closely by 31 (24.8 percent) of reporting institutions spending 0.5 to 0.9 FTE. Of 125 possible responses, only 15 (12.0 percent) indicated greater than 2.0 FTE. Of these, 9 had a total staff at their institutions of greater than 20 (7.2 percent of responses), and six had a total staff of less than 20 (4.8 percent of responses). A larger staff size did not equate with significantly more time being devoted to preservation activities.

Because many institutions were expected to be small or medium in size (this is a requirement when applying for Preservation Assistance Grants), the presence or absence of a preservation administrator was not chosen as an indicator of commitment to preservation, as hiring a full-time preservation officer generally is not feasible except in the largest institutions. In fact, Higginbotham and Wild have argued that a centralized program may not be the most effective means of administering a preservation program, and that preservation responsibilities should be part of the duties and responsibilities of all library personnel.³⁶ However, respondents may have underestimated staff time invested in preservation. For example, the 2001–2002 *ARL*

Table 1. Respondent profile

Institution Type	Response		Staff Size							No Ans.
	No.	%	>100	70–100	40–69	20–39	10–19	5–9	<5	
Academic	43	34.4	11	2	6	8	10	2	3	1
Public library	44	35.2	4	2	5	11	16	3	3	0
Independent research library	2	1.6	1	0	1	0	0	0	0	0
Archives	6	4.8	0	0	0	2	1	2	1	0
Museum	11	8.8	1	1	0	1	2	2	4	0
Historical society	8	6.4	0	0	0	1	0	3	4	0
Other	11	8.8	1	1	2	2	5	0	0	0
Total	125	—	18	6	14	25	34	12	15	1
Total Percent	—	100	14.4	4.8	11.2	20.0	27.2	9.6	12.0	.8

Table 2. Staff time devoted to preservation

Staff Time for Preservation (FTE)	Staff Size							Total
	>100	70–100	40–69	20–39	10–19	5–9	<5	
>5.0	1	1	0	1	0	0	0	3
4.0 - 4.9	2	0	0	1	0	0	0	3
3.0 - 3.9	2	0	0	1	0	1	1	5
2.0 - 2.9	0	0	0	0	1	1	2	4
1.0 - 1.9	2	0	2	3	3	2	0	12
0.5 - 0.9	4	0	4	8	10	0	5	31
<0.5	7	5	7	10	20	8	7	64
No answer	0	0	0	0	0	0	0	3
Total	18	6	13	24	34	12	15	125

Preservation Statistics report that Group 4 ARL libraries (those with fewer than two million volumes) had a median 4.80 FTE staffing for preservation activities library wide.³⁷ Also, the Oberlin Group was recently characterized as having a mean total of 2.0 FTE for library-wide preservation activities.³⁸ Most of these institutions are libraries averaging collections of fewer than half a million volumes.³⁹

Respondents were asked when each institution had undertaken their most recent general preservation assessment (see table 3). The purpose of dating the assessment is to try to determine the activities that are being accomplished over the long term, as well as those that are being accomplished in the period immediately following a review. The earliest date on the questionnaire is the first year that New York state began to provide financial support for general preservation assessments through its Discretionary Grants Program. Information provided by NEDCC listed their earliest assessment clients being served in 1993. NEH Preservation Assistance Grants were first awarded in 2000.

The distribution of responses favored those conducted between 2000 and 2003, with 72 (57.6 percent) surveys conducted during this period. Forty-nine assessments (39.2 percent) were undertaken between 1985 and 1999; four institutions did not answer the question. A cross tabulation of institution type by year of assessment shows that across institutional types, participation by public libraries has remained somewhat consistent, with 21 surveys reported before 1999, and 21 between 2000 and 2003. The period between 1995 and 1999 was a particularly active period for public libraries. General assessments by all other types of institutions combined have increased slightly, with 16 surveys reported before 1999, and 22 between 2000 and 2003. Participation by academic institutions increased steadily

between 1985 and 2002, and has more than doubled since 2000: only twelve were reported before 1999, and twenty-nine between 2000 and 2003.

Note that 88.8 percent of the institutions that participated in this research study reported receiving grant funding to pay for their general preservation assessment (see table 4). This was anticipated, as the mailing list was developed based on public reporting of funded activity identified through regional centers or public agents. The disproportionate number of assessments for colleges and universities may reflect the introduction of the NEH Preservation Assistance Grants program in 2000 and its emphasis on preservation of collections with significant value.

The Assessment Process

Questions 6 through 16 of the questionnaire attempted to determine if the assessment process and the topics considered meet the expectations outlined in the literature. The responsibility of the host institution and surveyor, stages of the review, and comprehensiveness of the assessment were examined.

Respondents were asked to estimate the time spent by their institution preparing for the review in advance of the site visit (see table 5). Activities could include committee time, application or contract preparation, and so on, and relate to Darling and Webster's first phase of the survey process: preparation for the planning study and establishing the study framework. Overall, 92 (73.6 percent) spent 40 hours or less. Only 13 (10.4 percent) institutions spent 41 or more hours. The data, sorted for analysis according to type of institution, indicate no apparent trends. Colleges and universities represent 7 of the 13 institutions reporting 41 to 100 hours preparing for the site visit.

The amount of time spent preparing for the site visit is less than 41 hours for the majority of institutions. Groundwork through the completion of presurvey is less than anticipated. Eighty respondents (64.0 percent) completed a questionnaire in advance of the site visit (see table 5). Completion of a pre-survey questionnaire is described in most methods: it helps assessors to focus on key areas and use their time on site to its best advantage. Completion of some questionnaires may demand a substantial amount of staff time, effectively involving the institution through self-study.⁴⁰

The data were analyzed to discover if any relationship existed

Table 3. Year of most recent general assessment

Year of Assessment	Response		Academic Libraries		Public Libraries		Other	
	No.	%	No.	%	No.	%	No.	%
1985–1989	8	6.4	3	2.4	2	1.6	3	2.4
1990–1994	14	11.2	4	3.2	3	2.4	7	5.6
1995–1999	27	21.6	5	4.0	16	12.8	6	4.8
2000	21	16.8	7	5.6	7	5.6	7	5.6
2001	21	16.8	8	6.4	8	6.4	5	4.0
2002	23	18.4	13	10.4	3	2.4	7	5.6
2003	7	5.6	1	0.8	3	2.4	3	2.4
No Answer	4	3.2	2	1.6	2	1.6	0	0.0
Total	125	100	43	34.4	44	35.2	38	30.4

Table 4. Grant funding

Grant Funding Received	Response		Academic Libraries		Public Libraries		Other	
	No.	%	No.	%	No.	%	No.	%
	111	88.8	39	31.2	42	33.6	30	24.0

Table 5. Preparation and planning for assessment

Preparation Time/hours	Response		Academic Libraries		Public Libraries		Other	
	No.	%	No.	%	No.	%	No.	%
<20	47	37.6	14	11.2	18	14.4	15	12.0
20–40	45	36.0	16	12.8	16	12.8	13	10.4
41–100	13	10.4	7	5.6	4	3.2	2	1.6
Do not know	19	15.2	5	4.0	6	4.8	8	6.4
No answer	1	0.8	1	0.8	0	0.0	0	0.0
Total	125	100	43	34.4	44	35.2	38	30.4
Pre-Survey Questionnaire Completed								
Yes	80	64.0	26	20.8	31	24.8	23	18.4
No	17	13.6	11	8.8	4	3.2	2	1.6
Do not know	27	21.6	5	4.0	9	7.2	13	10.4
No answer	1	0.8	1	0.8	0	0.0	0	0.0
Total	125	100.0	43	34.4	44	35.2	38	30.4

Table 6. Pre-site visit preparation time by staff size

Preparation Time/Hours	No. of Staff							Total
	>100	70–100	40–69	20–39	10–19	5–9	<5	
<20	7	1	5	8	15	5	6	47
20–40	4	4	5	13	8	3	7	44
41–100	0	1	2	3	6	0	1	13
Do not know	6	0	2	1	5	4	1	19
No answer	0	0	0	0	0	0	0	2
Total	17	6	14	25	34	12	15	125

between the total number of institutional staff and the amount of time spent preparing for the survey (see table 6). Of those with a staff size of 19 or fewer (61), 26 reported spending less than 20 hours, 18 reported spending twenty to 40 hours, and 7 reported spending 41 to 100 hours preparing for the study. For those institutions with a staff size of more than 20 and less than 100 (45), 14 reported spending less than 20 hours, 22 reported spending 20 to 40 hours, and 6 reported 41 to 100 hours; 3 did not know how much staff time was spent in preparation. Of the responding institutions with more than 100 staff, none reported 40 to 100 hours of preparation time. This finding is somewhat remarkable, since one might assume the largest institutions would correlate to a greater amount of time preparing for the assessment.

Most institutions enter into the assessment process with a series of goals for undertaking the study. An understanding of the purpose and potential scope of a general preservation assessment may be assumed from an examination of the major goals cited for undertaking the review. Further analysis of outputs may indicate the extent to which the general assessment contributes to achieving these goals. Respondents were asked to select those goals

that applied to their institution. Fourteen were listed in the questionnaire, and the number of goals per institution was calculated. The mean number of goals per institution was 5.49, indicating that less than half of the topics listed were of interest to most of the respondents. The goals most frequently selected from the list were to: (1) develop a preservation plan (77.6 percent of respondents); (2) improve storage practices (76.0 percent); and (3) improve the environment (65.6 percent). Improving the facility (56.8 percent of respondents), increasing staff awareness of preservation (54.4 percent), and increasing administrative support (52.8 percent) also were important to most institutions surveyed. Advancing repair activities (27.2 percent of respondents) was not the topic of least interest, but it still rated lower than goals associated with prevention and administrative oversight. The topics of least interest were to: (1) increase staffing for preservation (18.4 percent of respondents); (2) advance reformatting activity (to what format was not specified; 15.2 percent); (3) improve exhibition practices (12.0 percent); and (4) other (8.8 percent). Only 4 institutions reported not knowing what their goals were in undertaking the assessment process. The very low response to the category “Other” indicates that the choices

listed covered most areas of concern. These findings are summarized in table 7.

Major goals for undertaking a general preservation assessment were analyzed according to the type of institution (see table 7), with only two apparent trends. The data indicate that of the most frequently selected goals, interest was slightly less among the combined group (20.0 percent), as compared to public libraries (29.6 percent) or colleges and universities (28.0 percent), in developing a preservation plan. Of the topics generating the least interest, 7 of the 19 respondents interested in reformatting are "others," 8 are public libraries, and only 4 are academic. The data suggest that most institutions were concerned with administrative and overall, preventive activities that benefit the collection as a whole, as opposed to remedial care. However, the low mean indicates that perhaps many

institutions were not fully aware of, or interested in, the range of issues that might be considered during a general assessment. With the possible exception of "improving exhibition practice," the goals listed should be covered in most general preservation assessments. The expert conducting the assessment may judge, at its conclusion, whether goals have been met or not. He or she also may be able to help the institution to reconsider its goals and objectives through the report of findings.

The second phase of the general assessment, determining preservation needs, includes a scheduled site visit that should allow sufficient time to explore the full range of issues relevant to the institution at hand. The questionnaire asked the respondents to characterize the expert that conducted the assessment. Of 125 responses, 121 (96.8 percent) engaged an outside assessor; 2 engaged a staff member (1.6

Table 7. Major goals of the assessment by type of respondent

Goal	Total		"Yes" Response				Other	
	No.	%	Academic Libraries		Public Libraries		No.	%
			No.	%	No.	%		
Develop a preservation plan	97	77.6	35	28.0	37	29.6	25	20.0
Improve storage practices	95	76.0	32	25.6	33	26.4	30	24.0
Improve the environment	82	65.6	28	22.4	28	22.4	26	20.8
Improve the facility	71	56.8	24	19.2	27	21.6	20	16.0
Increase staff awareness of preservation	68	54.4	29	23.2	20	16.0	19	15.2
Increase administrative support	66	52.8	25	20.0	23	18.4	18	14.4
Improve security	46	36.8	15	12.0	16	12.8	15	12.0
Increase preservation budget	36	28.8	13	10.4	10	8.0	13	10.4
Advance repair activity	34	27.2	15	12.0	10	8.0	9	7.2
Improve pest management	28	22.4	13	10.4	5	4.0	10	8.0
Increase preservation staffing	23	18.4	11	8.8	5	4.0	7	5.6
Advance reformatting activity	19	15.2	4	3.2	8	6.4	7	5.6
Improve exhibition practices	15	12.0	3	2.4	6	4.8	6	4.8
Other	11	8.8	5	4.0	2	1.6	4	3.2
Do not know	4	3.2	0	0.0	2	1.6	2	1.6
Mean: 5.49								

Table 8. Time spent and adequate time for site visit by staff size

Time for Site Visit	Response		Staff Size						
	No.	%	>100	70-100	40-69	20-39	10-19	5-9	<5
<1 day	11	8.8	2	1	1	2	1	2	2
1 day	60	48.0	10	3	6	9	19	3	10
2 days	37	29.6	5	1	6	8	9	5	3
3-5 days	11	8.8	1	1	1	5	2	1	0
Other	2	1.6	0	0	0	1	1	0	0
Missing	4	3.2							
Adequate Time for Visit									
Yes	98	78.4	13	6	10	21	27	9	12
Too much	1	0.8	0	0	0	0	1	0	0
Too little	13	10.4	2	0	3	4	2	0	2
Do not know	11	8.8	3	0	0	0	4	3	1
Missing	2	1.6							

percent), 1 did not know, and 1 respondent did not answer the question (0.8 percent). These results are not surprising; the population was derived primarily from sources that support and encourage the use of outside expertise.

The length of time allowed for the site visit was considered in this study (see table 8). The greatest number of respondents (60, or 48.0 percent) reported their site visits lasted 1 day; 37 (29.6 percent) had site visits that lasted for 2 days. Respondents also were asked to report if enough time was allowed to conduct the site visit properly. The majority (98, or 78.4 percent) reported that the time taken for site reviews was adequate. Only 13 respondents (10.4 percent) thought that too little time was allowed for the site visit. Most granting agencies limit the amount they will fund for consulting services, depending on the scope of the project. For example, NYSL will fund a consultant for only 3 to 4 days, including report writing, unless compelling arguments for greater support are presented. The data indicate that current awards are adequate for the majority of assessments. No conclusions can be drawn by comparing staff size to the data about adequate time for the site visit.

Respondents were asked to identify the topics or issues their assessment considered (see table 9). The purpose of this question was to provide support for the analysis by determining that the population under review had, in fact, undertaken a general review. The mean number of topics considered per institution was 6.54. Environmental factors were the most frequently selected subject, covered in 96.0 percent, or 120 out of 125 assessments. The second most frequently considered topic was the condition of the general collection (87.2 percent), followed closely by collection management (77.6 percent). A majority of respondents reported that the condition of their special collection was considered (68.8 percent), as well as security (68.0 percent), emergency management (66.4 percent), access and use (65.6 percent), and the organizational context for the review (55.2 percent). Staff training needs was reported by slightly less than half of the institutions responding (45.6 percent).

Bibliographic control was the topic least considered but

was still included in many of the surveys (27.2 percent of respondents), suggesting that assistance with cataloging and classification is often required. Of the 34 institutions reporting that bibliographic control was considered, 14 (11.2 percent) were "other" institutions, slightly higher than what was reported by colleges/universities (9 respondents) and public libraries (11 respondents). Both NYSL's Discretionary Grants Program and NEH's Preservation Assistance Grants include bibliographic control as one of the activities that could be part of a general preservation assessment.⁴¹ Bibliographic control, usually considered a pre-requisite for conducting the general assessment to help ensure the client knows what is in the collection, is sometimes identified as a need to assist managing preservation of the collection. By extension, those contracting for a general assessment should consider hiring a consultant familiar with bibliographic methods appropriate to their institution.

The elements of the assessment report (executive summary, background information, appendixes, and so on) should indicate how well the findings are presented by the consultant for use by the client. A high majority of respondents reported that most of the components listed

Table 9. Topics/issues considered by type of institution

The Assessment Considered	"Yes" Response							
	Total		Academic Libraries		Public Libraries		Other	
	No.	%	No.	%	No.	%	No.	%
Environmental factors	120	96.0	40	32.0	44	35.2	36	28.8
General condition of the collection	109	87.2	37	29.6	37	29.6	35	28.0
Collections management	97	77.6	32	25.6	34	27.2	31	24.8
Condition of special collection	87	68.8	31	24.8	35	28.0	21	16.8
Security	85	68.0	28	22.4	35	28.0	22	17.6
Emergency management	83	66.4	31	24.8	30	24.0	22	17.6
Access and use	82	65.6	27	21.6	33	26.4	22	17.6
Organizational context	69	55.2	28	22.4	21	16.8	20	16.0
Training needs	57	45.6	26	20.8	15	12.0	16	12.8
Bibliographic control	34	27.2	9	7.2	11	8.8	14	11.2
Mean: 6.54								

Table 10. Report components

What was included in the report?	"Yes" Response	
	No.	%
List of recommended preservation action organized by priority	109	87.2
Observations from the site visit organized by preservation topic	108	86.4
Executive summary	100	80.0
Information to achieve the required preservation actions	88	70.4
Background information on preservation topics	81	64.8
Appendices with further resources	77	61.6
Other	2	1.6
Do not know	1	.8
No report was issued	1	.8
Mean: 4.48		

were included with their report (see table 10). The most frequently cited section is a list of preservation actions organized by priority, reported by 109 of 125 institutions (87.2 percent). Most institutions reported that the observations from the site visit were ordered by preservation topic (108, or 86.4 percent); the report included an executive summary (80.0 percent); they received the information needed to achieve a preservation action (70.4 percent); background information was provided (64.8 percent); and the report contained appendixes with further resources (61.6 percent). The data indicate that the components of a final report were consistent across the population studied; only 2 institutions selected "Other" to compensate for components not listed. Only 1 institution reported not receiving a report, and only 1 did not know the contents of the report.

Respondents were asked to report on the types of follow-up services they received after the site visit (see table 11). Only 50.4 percent of institutions discussed the findings with their consultant before their report was submitted, and fewer than half (43.2 percent) reported that their consultant inquired if they had any corrections or concerns. However, 36.8 percent reported that the assessor responded to requests for further information, and 46.4 percent discussed implementation strategies. After the site visit, 32.0 percent of assessors gave an oral report of findings. The mean number of follow-up services per institutions was 2.40. Only 7 institutions reported no follow-up services after their site visit.

While a report of findings may be well-prepared, this alone does not indicate how well-considered the preservation actions are in the context of the institution under review. The consultant should discuss findings before submitting a written report, or submit the written report in draft form for review by the host (and other participating consulting specialists), and make revisions before considering the report final.⁴² CAP assessors, in presentations given in June 2002, suggested that a correlation exists between successful program development and a positive working relationship with the consultant.⁴³ A few written comments submitted by volunteers that participated in this study highlighted the need for more discussion with the surveyor before, during, and after their report was submitted. In addition, 4 institutions

cited the lag time between the site visit and delivery of the written report as unsatisfactory and longer than anticipated. Overall, this study suggests that collaborative analysis and strategizing between host institution and assessor was weaker than anticipated. Further investigation into this phase of the assessment process may be warranted.

To finalize the characterization of the assessment process, participating institutions were asked to report how much staff time was spent reviewing the findings of their report (see table 12). The majority of institutions spent 40 hours or less on the review, with 56 institutions (44.8 percent) spending fewer than 20 hours, and 41 institutions (32.8 percent) spending 21 through 40 hours. Only 7 institutions reported spending 41 hours or more, and 18 reported that they did not know how much time was spent. No significant trends were noted by institution type or staff size. These data indicate that most institutions invest one week or less of staff time reviewing the final report of their assessment. This figure seems low, although it is comparable to the time spent in advance of the site visit (see table 5). The findings of this study are a good indicator of the amount of time most institutions can expect to spend when undertaking a general assessment. Most published resources have been less clear about the amount of time it will take to conduct an assessment, stating that it is dependent on the size and type of institution participating, among other factors.⁴⁴

Table 11. Follow-up services

	Yes		No	
	No.	%	No.	%
After the site visit, the assessor				
Discussed recommendations before submitting a report	63	50.4	62	49.6
Discussed implementation strategies	58	46.4	67	53.6
Inquired if there were corrections, concerns, etc.	54	43.2	71	56.8
Responded to questions for further information	46	36.8	79	63.2
Delivered an oral report of findings	40	32.0	85	68.0
Requested your evaluation of the assessment	37	29.6	88	70.4
Do not know	17	13.6	108	86.4
Provided no follow up services	7	5.5	118	94.4
Other	4	2.3	121	96.8
Mean: 2.40				

Table 12. Staff time reviewing findings by staff size

Review Time/hours	Staff Size							Total
	>100	70-100	40-69	20-39	10-19	5-9	<5	
<20	9	3	7	12	15	5	5	56
21-40	3	2	4	10	13	2	7	41
41-100	0	0	1	1	0	1	2	5
100+	0	0	0	1	1	0	0	2
Do not know	6	0	2	1	5	3	1	18
No answer								3
Total	18	5	14	25	34	11	15	125

Conclusion

This paper characterizes the assessment process and appraises key elements, providing a foundation that defines preservation reviews that have been undertaken since the late 1980s by a range of United States institutions, primarily colleges and universities, and public libraries. The value of this data is that it informs future assessments through the collection of concrete data on representative measures that could stand for the whole. Of the institutions that participated in this study, most are small or medium in size and received funding to hire an outside expert to conduct their review. The time invested by the host institution in preparation for the assessment, and in reviewing the findings of the subsequent report, is less than two full weeks in staff time per institution. Most assessments are broad in scope and favor the study of preventive activities. The largest part of cited goals were to develop a preservation plan, improve storage practices, and to improve the environment. The time allowed for site visits is adequate in the majority of cases, and the report content is consistent across the population studied. A review of follow-up services suggests that collaborative analysis and strategic planning with the assessor is weak. Further investigation into the role of the consultant, especially during report preparation and after its delivery, is warranted. A second paper, "Use of General Needs Assessments: Outputs," planned by this author, will report what preservation actions are being realized as a result of the process. In addition, the paper will try to characterize those attributes of the general assessment methodology that can be labeled as best practices.

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Appendix. Questionnaire: Use of General Preservation Assessments (Part I)

Please answer each question to the best of your ability. You may choose not to answer any question(s) you do not wish to. Please leave these questions blank.

I PREFER NOT TO PARTICIPATE IN THIS STUDY

MY INSTITUTION HAS NOT HAD A GENERAL PRESERVATION ASSESSMENT

If you checked either of the boxes above please return the questionnaire now. Thank you.

Part I: The General Preservation Assessment Process

1. Which of the following most closely defines your institution? *Check one*

- College or university Public library Independent research library Archives Museum
 Historical society Other (please describe):

2. What is the total number of your institutional staff?

- > 100 70 – 100 40 – 69 20 – 39 10 – 19 5 - 9 < 5

3. How much staff time is devoted to preservation activities?

- More than 5.0 FTE 4.0 – 5.0 FTE 3.0 – 3.9 FTE 2.0 – 2.9 FTE 1.0 – 1.9 FTE
 0.5 – 0.9 FTE Less than 0.5 FTE

4. When was your most recent assessment conducted?

- 1985 to 1989 1990 to 1994 1995 to 1999 2000 2001 2002 2003

5. Did you receive grant funding to pay for the assessment?

- Yes No Do not know

6. How much time do you estimate was spent in advance of the site visit preparing for the review? Include committee time, application/contract preparation, etc.

- Less than 20 hours 20 to 40 hours 41 to 100 hours More than 100 hours Do not know

7. Your major goals for undertaking an assessment were to: *Check all that apply*

- Increase staff awareness of preservation Increase administrative support Develop a preservation plan
 Increase staffing for preservation Increase the budget for preservation Improve the facility
 Improve storage practices Improve the environment Improve security
 Improve pest management Advance repair activity Advance reformatting activity
 Improve exhibition practices Do not know Other (please describe):

8. Did your institution complete a “pre-survey questionnaire” to help familiarize your assessor with the institution in advance of the site visit?

- Yes No Do not know

9. The expert who conducted your general preservation assessment was: *Check one*

- Outside assessor Staff member Volunteer Student Do not know Other (please describe):

10. Did your assessor use a guide or tool to direct the assessment?

- Yes No Do not know

11. The site visit lasted:

- Less than 1 day 1 day 2 days 3 to 5 days Other (please describe):

12. Do you feel there was adequate time to conduct the site review?

- Yes Too much Too little Do not know

B. The assessment considered: *Check all that apply*

- Organizational context Collections management Access and use Bibliographic control
 Emergency management Environmental factors Training needs Security
 General condition of the collection Condition of special collection

14. Which of the following was included in your assessment report? *Check all that apply*

- Executive summary Background information on preservation topics
 Observations from the site visit organized by preservation topic
 List of recommended preservation actions organized by priority
 Information to achieve the required preservation actions
 Appendices with further resources No report was issued Do not know Other (please describe):

15. After the site visit your assessor: *Check all that apply*

- Discussed recommendations before submitting a report Delivered an oral report of findings
 Inquired if there were corrections, concerns, etc. Requested your evaluation of the assessment
 Responded to requests for further information Discussed implementation strategies
 Provided no follow-up services Do not know Other (please describe):

16. How much time did the staff spend after the site visit reviewing the findings generated from the assessment?

- Less than 20 hours 21 to 40 hours 41 to 100 hours More than 100 hours Do not know

17. How long after the conclusion of assessment (i.e., report delivery) did you begin to implement findings? *Check one*

- Less than 2 weeks 2 to 4 weeks 1 to 3 months 3 to 6 months 6 months to 1 year
 1 to 2 years More than 2 years Do not know No findings were implemented

18. Did you draft a written preservation plan based on the information provided by the assessment?

- Yes No Do not know

19. Have you updated your preservation goals and objectives since your assessment was conducted?

- Yes No Do not know

20. Since your assessment administrative and staff support of preservation has: *Check one*

- Increased Decreased Stayed the same Do not know

Part II: Outcomes

21. The following are recommendations that might be reported based on findings of a general preservation assessment. Please indicate if they were recommended to you and, **if yes**, whether or not they were accomplished.

RECOMMENDATION	RECOMMENDED AS PART OF ASSESSMENT <i>Check One</i>			RECOMMENDED & ACCOMPLISHED SUBSEQUENT TO ASSESSMENT <i>Check One</i>		
	YES	NO	Do not know	Accomplished	Partially Accomplished	Not Accomplished
Form a preservation committee						
Change the organizational mission to include preservation						
Conduct further assessments of the building or collections						
Have collection materials appraised						
Obtain outside funding for preservation activities						
Reallocate existing resources for conservation/preservation activities						
Hire additional staff to assist with preservation activities						
Provide staff with preservation training						
Assign preservation responsibilities as part of staff job descriptions						
Improve structural design of facility where collection is stored/used						
Improve structural integrity of facility where collection is stored/used						
Construct a better facility for storage and/or use of the collection						
Relocate to a better facility for storage and/or use of the collection						
Write an emergency prevention and response plan						
Improve or install:						
Plumbing						
Physical access						
Physical security						
Lighting						
Environmental controls						
Environmental monitors						
Air filtration						
Physical security						

Fire alarms						
Sprinkler system						
Pest management						
Improve handling of collections						
Improve storage systems (shelving, cabinets, etc.)						
Increase storage space						
Improve or increase use of proper storage enclosures						
Improve care of specific collection formats (i.e., photographs, rare books, magnetic media, etc.)						
Improve quality and appropriateness of commercial library binding						
Improve quality and appropriateness of in-house repair methods/materials						
Increase contracting of outside conservation services						
Improve exhibition practices						
Reformat holdings:						
To microfilm						
To other photographic film format(s)						
As photocopies						
By digitization						
Other						

22. Which of the following may have hindered your institution's ability to implement preservation recommendations. *Check all that apply*

- Change in administration Change in institutional mission Change in organizational structure
 Shift in organizational priorities Reduced staffing levels organization-wide
 Need for further information about best practices on preservation topics
 Need for further preservation training
 Reduced staffing levels in preservation units Decreased institutional funding
 Disaster resulting in significant loss of the collection Transfer of collection to other institution
 None Other (please describe):

23. Please provide any comments you might have about ways that might improve the general preservation assessment in the space below.

Thank you for your input and assistance with this project. Please respond by November 30, 2003, using the self-addressed, stamped envelope provided or mail to:

Karen Brown, Preservation Librarian
 University at Albany Libraries LE310
 1400 Washington Ave.
 Albany, NY 12222

A Serials Acquisitions Cost Study

Presenting a Case for Standard Serials Acquisitions Data Elements

David C. Fowler and Janet Arcand

This paper is based on time and cost studies conducted at Iowa State University (ISU) between 1986/87 and 2000/2001. Serials acquisitions functions were evaluated and examined with a view toward using the results as a management tool. Previous cost center papers by the authors and others focused only on monograph acquisition functions. Analysis of the data collected at ISU suggests that libraries that have developed standards for serials acquisitions processing could reap significant benefits through the use of consistent sets of information for management decisions, including, but not limited to, reassigning staff time to new and evolving tasks.

Organizations of all types all around the world and through history have sought to measure their effectiveness in relation to their particular stated mission. One way that these organizations accomplished this was by examining the variables generated by the actions within or outputs of their operations. Two of the most important variables that can be measured are staff time (the amount of chronological units expended by employees in accomplishing their tasks in service of the organization's goals) and cost (the amount of financial units expended in accomplishing these particular operations).

The broad goal of this endeavor is to increase the organization's effectiveness by examining and measuring which expendable resources (such as personnel time and money) are being allocated and how they are being used. By doing this, managers and administrators are better able to comprehend how their organization functions, the extent to which it meets its stated (and unstated) goals, and how that performance can be improved.

Research in the arena of time and cost studies continues to be a relevant tool for administrators and is useful for defining existing trends and predicting future directions for which the organization needs to prepare. This type of research can be especially valuable for libraries in the current environment, where administrators have an expectation that libraries will be able to prove the value and efficiency of the services that they provide. In 2003, Calhoun ambitiously stated that, "To achieve the results they need, technical services departments need breakthrough, double-digit improvements in cost, time, and effectiveness."¹

Between 1986/87 and 2000/2001, the Iowa State University (ISU) library created and implemented an exhaustive time and cost study that examined these

David C. Fowler (dfowler@iastate.edu) is the Electronic Resources Coordinator for Acquisitions and **Janet Arcand** (jarcand@iastate.edu) is the Head of the Acquisitions Department at Iowa State University Library, Ames.

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from ALCTS Publishing

Differences Between, Changes Within Guidelines on When to Create a New Record

Prepared by the ALCTS
Cataloging and Classification
Section's Task Force on an
Appendix of Major and Minor
Changes



Provides guidance to the cataloger and describes what constitutes a major difference between manifestations, requiring the creation of an original record, as well as detailing major changes within a serial manifestation. Guidance is also provided regarding minor changes that would not require a new bibliographic record, but might necessitate updating an existing record.

Available online to ALCTS Members or order in print at www.ala.org/alcts/catalog.

factors within that library's technical services division. The study was begun in April 1987 and was suspended at ISU after 2001. Previous papers based upon time and cost study data gathered at ISU have proved of interest to the general library community in providing insight into operational structure and planning. This paper largely follows the pattern established by previously published papers that were based on the ISU time and cost study data.²

At ISU the originators of the cost study assumed that automation would enable the library to reduce staff costs and time, and improve services. This, however, turned out to be only partially true in the case of serials acquisitions. Because of automation, the library found it was able to do more work with the same amount of staffing—it was able to take on new assignments (such as government document processing) and enhance the value of its products (improving the accuracy of reports and providing order and receipt information to the public). However, the amount of time expended overall was not reduced, and costs consistently rose throughout the period of the cost study. The need to maintain long-term commitments to serials subscriptions appeared to limit the library's ability to reduce staffing and costs. Based on analysis at ISU, the most significant cause for the inability to make reductions appeared to be a lack of uniform or standard acquisitions processing data elements. The authors believe that time and costs could be improved if such standard elements were created and used.

No such officially designated standards for data elements exist in the library profession. For the purpose of this paper, these envisioned acquisitions processing standards will be defined as acquisitions data elements pertaining to the library's individual acquisitions arrangements and its local collection management needs. They are defined within the library's integrated library system (ILS), either in the acquisitions module or in related modules.

ISU Time and Cost Studies

Because of the wealth of raw data available from years of statistical reporting, a number of papers have been published based on time and cost analysis of various functions of library technical service operations at ISU. These papers focused upon aspects of cataloging and explored the effect of automation on costs and of the evolving national database of bibliographic records; they also identified work processes of high cost as fruitful areas to analyze with the goal of continuing cost reduction.³ Two studies focused upon early data on the high costs of acquiring monographs. Rebarcak and Morris described their analysis of the then most recent complete year of data, 1994/95, and analyzed the productive and nonproductive elements of the monographs acquisitions work processes.⁴ Morris, Rebarcak, and

Rowley analyzed several years of then-recent data, from 1990/91 through 1994/95, to obtain a clearer view of the relevant time and cost centers over the passage of time, and drew conclusions that initial automation efforts had only a limited impact upon acquisition costs, due to limitations in the scope of the changes that were implemented.⁵ Fowler and Arcand continued the monographs acquisitions analysis covering 1995/96 through 2000/2001.⁶

Literature Review

Aside from previous papers on the ISU time and cost studies, the authors found little in the library literature that addressed the area of cost analysis of library technical services operations, and very little that specifically addressed the impact of standard data elements in a serials acquisitions environment. Five works of scholarship, however, do seem to have relevancy.

"The Future of Standards" by Paul indicated that acquisitions processing standards exist or are in the process of being created or refined for material formats and for buyer-seller communications, and are of interest to the general library community.⁷ Because of the large number of stakeholders involved, the process of defining and adopting these standards has led to a proliferation of competing models, which may only exacerbate the problem. Attempts to create consensus have been subject to frequent breakdowns. This also has been illustrated in the area of national standards versus international standards, as well as with processing standards developed by the library community, which have proved to be unacceptable to the publishing community. Paul ultimately envisioned a future in which common processing standards will speed up the processing of communications.

The second article, "Standards! Standards! Standards! Experiences with Standards at the University of Georgia Libraries," was written by Somers.⁸ Somers detailed the experience of the University of Georgia (UG) libraries, where MARC bibliographic standards were deliberately ignored during the design of their local acquisitions and cataloging system, which negatively affected the library by making participation in any cooperative cataloging ventures, or inputting their own data in the national database, difficult or impossible. The UG library was later forced to go to enormous expense, time, and effort to make their cataloging information MARC-compatible. Later automation efforts were able to use this experience in determining how to incorporate standards as the basis for decision making. The pre-implementation planning to do this was considerable, but the end result was well worth it, resulting in an efficiently running system. The UG libraries did create their own in-house acquisitions data fields (which,

although not identified as such in the paper, appear to be prototypical acquisitions data element standards)—fields that they had to ensure would continue to exist after they became MARC compatible.

Farrell and Truitt wrote the third paper of note, “The Case for Acquisitions Standards in the Integrated Library System.”⁹ This described the historical setting behind the current need for standardization of what the authors referred to as “acquisitions metadata,” and, further, made the case for defining a conceptual framework for acquisitions standards, activity segments (which bear some similarity to ISU’s cost centers), data elements, and generic interfaces. These can be defined on a national level, since the problem and need is more than just local. The paper also discussed current standards for communications or cataloging needs. The authors stated that, “We need to recognize that administrative metadata such as that created during the acquisitions process is as critical to managing our collections, as bibliographic metadata is critical to providing access to them.”¹⁰ In other words, a uniform application of this administrative metadata, which the authors of this paper would characterize as standardized acquisitions data elements, if used properly and uniformly across libraries, could engender an evolution or even a revolution in acquisitions operations on a level that MARC records did for cataloging operations.

Farrell and Truitt also noted that, “Libraries routinely enrich (or have the need to enrich) acquisitions metadata to support local processes. We invest untold thousands of hours of staff time carrying out this enrichment.”¹¹ Finally, they stated that:

Increasingly, though, library managers at various levels are turning to the integrated system, perceiving it to be a rich source of data that can aid in the management of library budgets, collections, vendors, etc. Unfortunately, because neither the systems designers nor we viewed either data or system functionality with an eye to this new use, the results of our attempts to manage through the ILS have been at best mixed. Agreed-upon acquisitions standards would tend to enforce more disciplined thinking about the uses to which we put both our systems and our administrative metadata and would mark a major first step toward designing systems that are “management-friendly.”¹²

The fourth paper is “Starting with an Empty Map: Benchmarking Time and Costs for Serials Operations” by Slight-Gibney and Greci.¹³ This was a brief report at a workshop about a University of Oregon technical services time and cost study that focused on serials operations. The subject matter was relevant, but due to the workshop setting, the paper focused on methodology and contained only

a cursory examination of the resulting data. The authors concluded that benchmarking studies were valuable and needed to be done in other institutions.

The fifth paper, and the most recent of note, was “The Nonsubscription Side of Periodicals: Changes in Library Operations and Costs between Print and Electronic Formats” by Schonfield et al.¹⁴ In this useful and ambitious report, the authors test the assumption that cost reductions and staffing savings can be made as libraries transition from print to online journals. Eleven libraries of varying sizes participated in the study, which identified the nonsubscription costs for ordering and maintaining periodicals: these included space, equipment, and binding as well as staffing. The staffing time and costs, which covered the serial-related activities of the acquisitions staff, among others, were compiled through the use of activity logs and staff salary data. The focus for the analysis was the comparison of costs for electronic and print journals, and the authors devised a formula to project the libraries’ future costs for acquiring and maintaining their journals. Although the report concluded that all libraries should be able to reduce their costs by transitioning to online journals, they also assessed that some of the reduction might pose new problems in terms of staffing reassignments:

Because of the varying skill sets of individuals and the difficulty of reallocating relatively small amounts of employees’ time expenditures, it would probably be impossible to reallocate all the staff time expenditures in perfectly efficient ways. . . . Realizing the full potential cost decreases would pose a significant management challenge.¹⁵

An ongoing resource for the discussion of serials acquisitions standards is the Association for Library Collections & Technical Services (ALCTS) Automated Acquisitions/In-Process Control Systems Discussion Group, which meets twice yearly at American Library Association Annual Conference and Midwinter Meetings.¹⁶ Members of the discussion group also maintain a discourse throughout the year on the subject of acquisitions standards by hosting an electronic discussion group, AUTOACQ-L.¹⁷ A review of relevant postings to the group reveals that some members are attempting to define separate data elements that are important in terms of populating acquisitions records, their usefulness in communication, and their flexibility for manipulation. Some members have indicated that a structural framework should be created first, defining the broad functional phases of the acquisitions process, such as selection, pre-order, order, order maintenance, receipt, and payment, as well as reporting requirements.

Many electronic discussion postings in this area have been about defining a conceptual framework prior to get-

ting into specific elements and about discouraging rush jobs that only suit current needs or needs of a narrow audience; these postings have encouraged users to ensure that the end result is a viable product for the future and for far-ranging needs. Such sentiments would tend to support the authors' contention that such standardized acquisitions data elements are not yet in existence, but that acquisitions professionals are beginning to recognize the need for them and the advantages that they can provide in long-term projects. In summary, methodology and historic data are present, but no clear criteria exist against which appropriate standard acquisitions metadata can be measured.

The research presented in this paper does not demonstrate the level of staff time and cost savings that would be expected over time with the implementation of library automation and that was reported earlier studies on monographs processing. While some failure to incur savings can be traced to the complications of working in an automated environment, user and staff expectations for more and enhanced information in online records, and the challenges of managing electronic resources, the authors believe that the leading cause is the absence of standard serials acquisitions data elements. This absence requires frequent reformatting, reconfiguring, and redesigning data to operate in different integrated library systems and to generate the reports that library managers need.

Method

The method of Iowa State University's time and cost study largely follows patterns established in the aforementioned ISU-based articles. Readers interested in a more detailed description of this may refer to the authors' previous article.¹⁵ The methodology is summarized below.

Definitions

For the purposes of this and earlier studies, cost centers were created to allow analysis of time spent on tasks within ISU's technical services division. Eight cost centers were established by ISU at the outset, which in turn were subdivided initially into 130 and eventually 139 tasks. These centers were then tracked for this study. The centers are divided into two major groups: product and overhead centers. This analysis will look at product center data only. Product centers produce a product or services and include the time included in the following activities:

- *Acquisitions*: This includes all of the order, receiving, and claiming functions in the department, as well as the maintenance of associated files, but not the selection of materials, which is handled by selectors

in the public services and collections division. This section will be discussed in more detail below.

- *Cataloging*: This includes copy and original cataloging, searching for copy, authority work, recataloging, and internal file maintenance associated with all new title cataloging.
- *Volume preparation*: This includes all functions associated with marking materials, applying Tattle Tape, and in-house binding.
- *Catalog maintenance*: This includes all the activities involved in maintaining online databases (public access catalog and serials catalog), card catalogs and shelf lists, making holdings and location changes, and entering into OCLC any cataloging completed off-line.
- *Conversion*: This covers a long-term retrospective bibliographic conversion project as well as other smaller conversion projects, such as authority and serials Kardex records.

Overhead centers are centers that do not produce products or services, but that support such activities. These centers are apportioned back to the above product centers in order to arrive at the full cost of providing a product or service. These centers include: support services (administrative time, attendance at meetings, non-divisional library and university work, professional service and research, secretarial support, and any other work time not associated with any one center), leave (including vacation, sick leave, and holidays), and automation (the time spent in software development and support, OCLC and some integrated library system support, and the acquisition, utilization and customization of the hardware set-up).

Each center contains common tasks, such as training; procedure and policy documentation; consulting and referring; solving problems; sorting, shelving, distributing, and receiving; and revising. Task definitions were based on logical differentiations between work activities, on identifying activities that were anticipated to change with increased automation, and the uniformity of tasks definitions across cost centers to facilitate analysis on a wider basis. The centers and tasks were originally developed at ISU in the late 1980s. In 1998, a multi-institution study of technical services was initiated with ISU, Vanderbilt University, Cornell University, University of California Santa Barbara, and the University of Missouri-Kansas City. During this three-year study, the centers and tasks were enhanced and validated by successful use by all libraries.

Data Collection

All technical services staff tracked their work hours during a one-week sample period that occurred initially six times a

year, but was decreased to four times a year during the third year. This was done in order for the survey to be less arduous on the staff while still retaining statistical significance. The collection periods utilized were selected systematically by the study developers. Time was recorded in quarter-hour increments and rounded to the nearest quarter-hour. Individual times were added together to determine the departmental totals for time spent in each task for a given sample week. The time data represented in the accompanying charts represent the total number of hours devoted by all serials acquisitions employees to a given task within a given year, with the annual data being extrapolated from the four to six sample weeks.

In each sample week, the annual salary, including benefits, was gathered for each employee and an hourly salary was calculated. For hourly employees (primarily students), their actual hourly wage was used. Time recorded in each task was multiplied by a given staff member's hourly salary in order to calculate the costs associated with each staff member's task. The cost for each weekly task was the sum of all individual task costs. The data in the graphs represent the annual estimate of costs associated with the task activities of the serials acquisitions staff, again extrapolated from the costs of the weekly sample collection periods.

Each employee was assigned a position number that indicated his or her location in the library organization. If a member held two or more positions in different areas, they were assigned multiple numbers. These numbers were used to sort data by organizational level. The data collected was done so anonymously; any reports issued from the study did not identify individual staff.

The Focus of the Analysis

This paper focuses on the time and cost data associated with staffing for the serials acquisitions department within the technical services division at ISU. The longevity of the ISU cost center studies has presented a unique opportunity to study consistently gathered data on technical services division costs during a period of great technological and philosophical changes in library operations, both in librarianship as a whole and within ISU's library in particular. During the course of this study, the serials acquisitions department converted from a manual to an online environment and was increasingly required to meet the challenges of maintaining regular work tasks while simultaneously conducting three cancellation

projects and two major vendor changes. During this period, the library also started to feel the impact of online publishing and began to phase out print titles while introducing more and more electronic ones. While this first pass through the analysis is historical data, used to validate the sensibility of the methodology, the authors have drawn some conclusions as to future steps—in particular, steps toward true international standards for acquisitions metadata.

The data analyzed in this paper describe the work environment that existed in the serials acquisitions department between 1986/87 and 2000/2001. The authors will examine if the same factors that drove time and costs in monographs also could be applied to the serials environment or if different factors were at work, creating different problems, solutions, and outcomes.

Analysis of the Key Functional Cost Centers

Analysis of the combined serials acquisitions centers showed a picture that surprised the authors. The amount of time spent in these cost centers had remained fairly steady over all the years of the study (figure 1), unlike monograph acquisitions, which experienced some decreases. Automation had enabled the staff within the department to continue to accomplish their work assignments, expand services by making acquisitions data available to the public and staff, acquire material in the new electronic format, and take over the responsibility for the library's government publications unit, yet the costs of serials acquisitions work steadily increased throughout all of these years (figure 2). While some work processes were streamlined and less-expensive labor was hired to accomplish them, other serials acquisitions work became more complex and required more expensive staffing.

Cost study analysis for the years included in this study shows that the amount of staffing time spent in serials acquisitions tended to stay even over time, but costs consis-

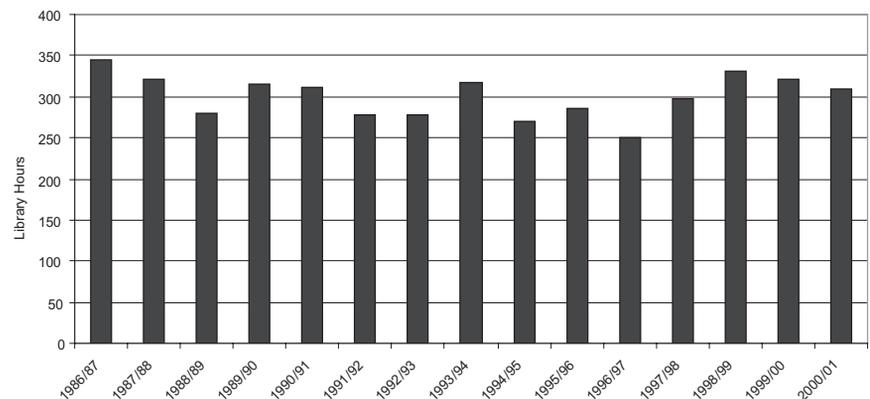


Figure 1 Serials acquisition: time

tently rose, primarily due to the job reclassifications but also due to general inflation costs.

Figure 3 represents the number of active periodical titles acquired and maintained by the library's serials acquisitions department during the years of the cost study, and may prove useful in providing context for the subsequent detailed analysis. These numbers illustrate the continual trend of a very gradual decrease in the number of active serials until 1996/97, when the processing of government publications was added to the workload of the department. Electronic resource titles were only counted in significant numbers during the final three years of the study, but became a rapidly growing percentage of the total. The numbers of electronic subscriptions for these years were 1,398, 2,177, and 3,684, respectively.

The following analysis of the six cost centers for which the serials acquisitions staff members recorded sufficient time to make a detailed examination possible will demonstrate the sensitivity of the data to unique events or projects that affected the department's work. After factoring out these unusual events, the serials acquisitions manager can review the data and determine productive areas in which to change operations with a view toward driving costs down.

Training and Revision

Training and revision was defined as the category used by individuals training others and also for any staff member being trained and who accomplished no actual work during his or her training session. It also was used for all time spent revising work after it had been accomplished.

Overall time and costs generally rose for this cost center (figures 4 and 5), even in the years before automation; however, the greatest increases in time and cost occurred during the automation and conversion years when staff members had to learn new tasks or work processes. Time and costs tended to level off after these spikes had passed. The increases were entirely due to training needs, since automation and increased staff autonomy led to the elimination of revision.

In the early years, many staff positions in serials acquisitions were classified at a lower level (in comparison to later in the study). During these years the department experienced

constant turnover and a continual need for training. In addition, departmental restructuring often required long-term employees to undergo training in new or changed work assignments. Training costs during these years were relatively low when compared to the amount of time involved because most of the new staff members undergoing training had less expensive salaries, due to their lower classification.

In 1995/96, time and costs increased significantly (to their highest level), due to the implementation of NOTIS online check-in, which required extensive training for the staff. Subsequent years illustrate how training and revision needs were stabilized after almost all functional processes had been automated through the ILS. Training was required in the newly added responsibility of government documents acquisitions and in the new ILS, but the need for revision was nearly eliminated due to automation. ILS use of bibliographic records as the foundation for all subsequent records removed much of the opportunity for creation of typographical errors. The additional information required to create the acquisitions records only needed to be keyed in once and then could be used to generate subsequent correspondence and purchase orders. Due

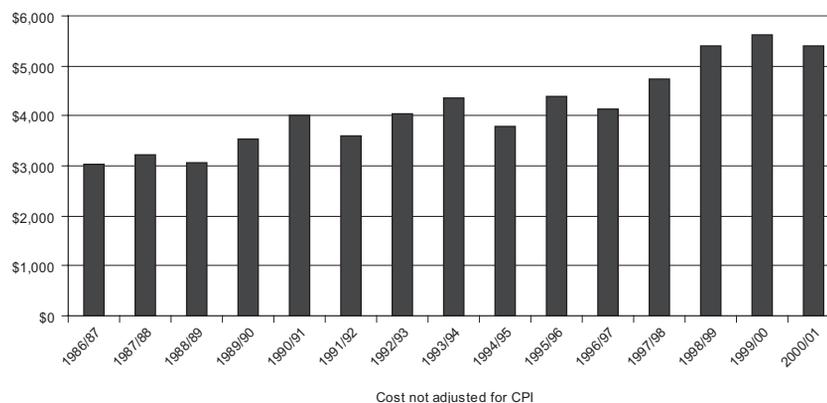


Figure 2. Serials acquisitions: cost

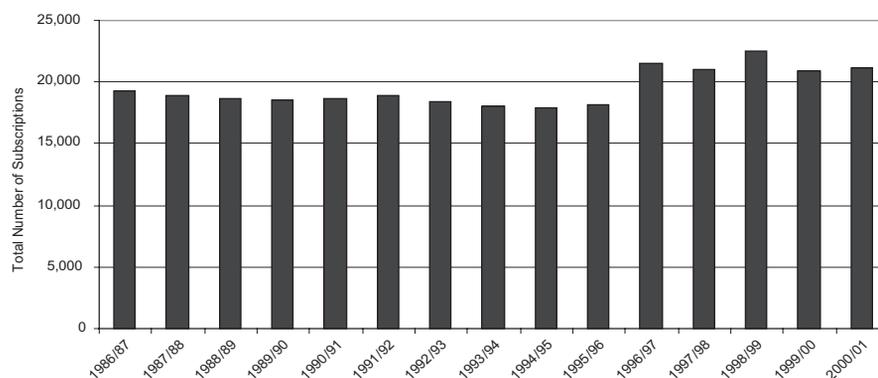


Figure 3. Active serials subscriptions

to the complexity of the automated system, some of the department's staff members were reclassified and expected to perform self-revision as they completed their work assignments. In 1997/98, the library began relying on student assistants to perform check-in and expected increases in the need for training due to the high turnover in student

staffing. However, the anticipated training increases did not occur as student workers only required training in routine work, whereas a paraprofessional staff member would have been trained in more advanced problem solving. One anomaly to note is that training was reduced to an all-time low in 1999/2000. This was the year in which staff members had to catch up on activities that had backlogged in the previous year when the new ILS, the Horizon Information Management System, was implemented. Due to the concentration on basic work assignments, no time was available to train staff in new work areas. The following year, 2000/2001, reflected normal training needs occasioned by projects and staff turnover.

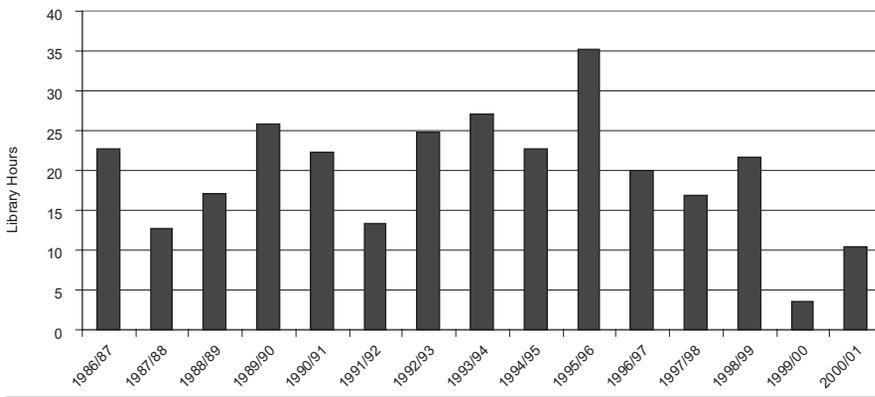


Figure 4. Training and revision: time

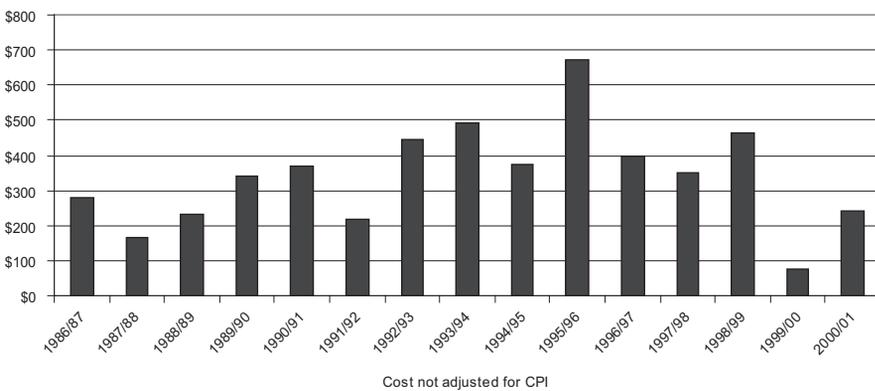


Figure 5. Training and revision: cost

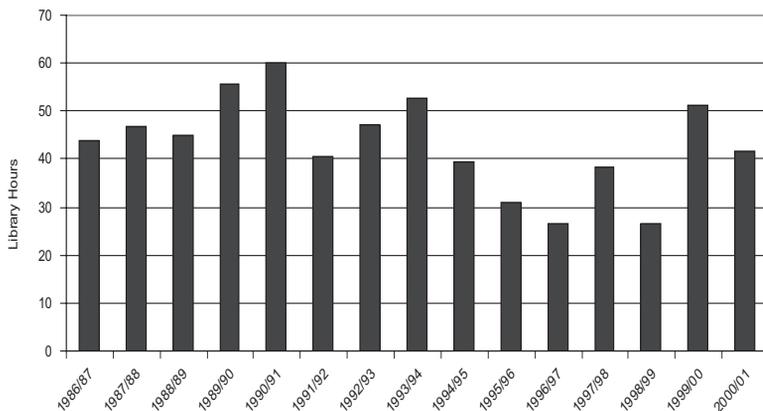


Figure 6. Consulting and problems: time

Consulting and Problem Solving

Consulting was defined as the time devoted to conferring with other staff members about acquisitions-related work; problem solving was defined as investigation and research that could not be handled as part of the routine work of regularly assigned tasks.

Time and cost statistics for this cost center display generally increasing activity, which then leveled off until it took a major upswing in the final years of the study (figures 6 and 7). Consultation needs rose in years when major events (cancellation projects, conversion from manual records, system migration, or departmental restructuring) required planning. The years in which these plans were implemented necessarily required less consultation. Reductions in consulting and problem solving reflect the fact that many of the departmental staff were reclassified and given greater autonomy for decision making.

Searching

Searching time and costs were generally tied to the amount of order-

ing necessary in any given fiscal year. However, a general level of searching, independent of bibliographer-generated ordering activities, continued because the acquisitions staff members searched local records, bibliographic utilities, published tools, or (in later years) Web sites to obtain information regarding title changes, cessations, frequency changes, delayed publication, and other changes involving journals. The need to continue serials subscription maintenance required this high level of search activity, even in years when the number of serial orders was low.

Figure 8 displays the normally low level of ordering (and thus searching) necessary for the library's subscription operation, because agents continually renewed subscriptions unless a cancellation letter was sent. Major vendor change projects caused the number of serial orders to escalate in two years (1994/95 and 1997/98).

Time and costs from 1990/91 onward show decreases because of efficiencies due to automation of both local and external data sources, ISU's cataloging staff making strides in their retrospective conversion efforts, and access to vendor online databases with reliable and current information. In general, time and cost increases and decreases in searching (figures 9 and 10) tended to follow the ordering history of the department. However, the two anomalous years in which vendor changes drove up the number of serial orders had no impact on time and cost statistics, since the new vendor was able to accomplish much of the ordering and searching activity. One noticeable change in the data, beginning in 1995/96, was that cost levels are appreciably higher than time levels. This was due to the fact that the lower-level staff position that had formerly handled searching had been eliminated, and the higher-paid staff member responsible for ordering now was expected to accomplish both tasks. This was feasible, as fewer print serial orders were placed and searching had been streamlined due to conversion, but this staffing change did affect the expense of searching.

Ordering

Ordering was the category for all activity associated with placing orders for new subscriptions or for single volumes and backsets. It was also the

category for the work of re-ordering subscriptions that had either lapsed with vendors, or that the library had determined should be ordered from another source.

As with searching, the correlation between the number of orders placed and the time and costs required to produce these orders was very strong (figures 11 and 12). The aforementioned anomalies regarding 1994/95 and 1997/98 apply to ordering as well as to searching.

Major work on the 1997/98 vendor change project was done during two weeks, when two EBSCO (the library's serial agent) staff members were physically present at the library to assist in inputting orders and when the library's staff devoted all their efforts to accomplishing these re-orders. By happenstance, the cost study survey of staff, which occurred six times a year, did not coincide with either of the weeks of intensive ordering activity.

However, while greater information (which enabled orders to begin with fewer initial start-up problems) was now available to the library staff, the ordering process now required greater experience and judgment to discern relevant data and to choose the best of the many options now

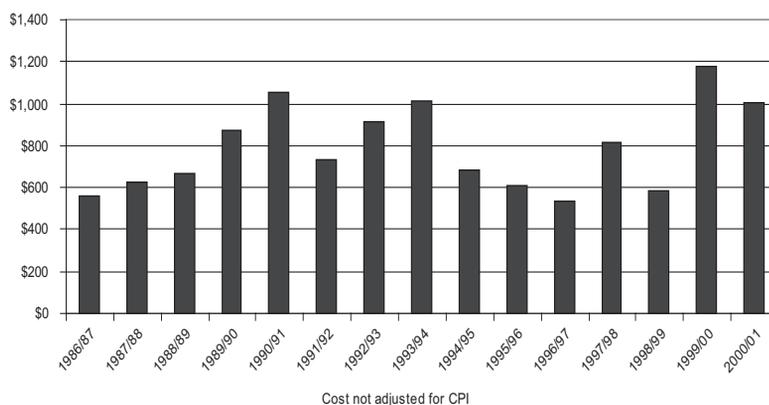


Figure 7. Consulting and problems: cost

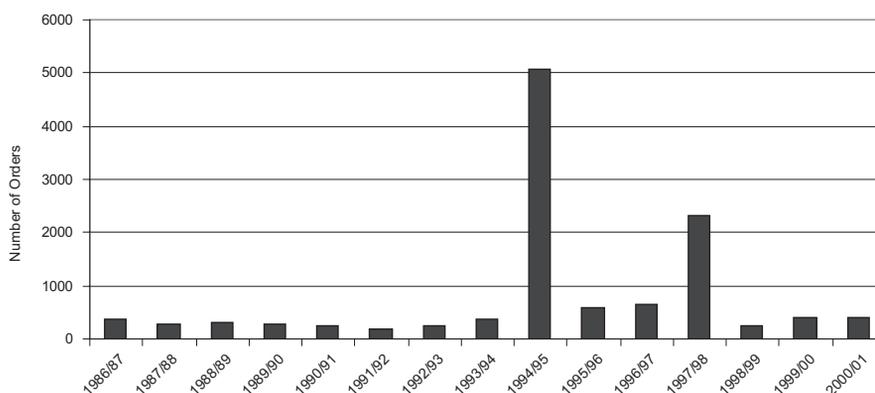


Figure 8. Serial orders

available. It required a high-level staff member to perform it—one who needed to be aware of new trends and who was prepared to set new policy or determine how and when consultation was required. This trend was further exacerbated when ordering of electronic materials increased sufficiently to require hiring an electronic resources coordinator. A professional librarian was hired for this job because ordering online material often required complex, time-consuming negotiations and knowledge of legal documents, such as licenses. A fruitful area for future analysis by the library will be determining how to lower ordering costs by finding new ways to streamline the process and sufficiently standardize procedures so that it can be delegated to the lower-level staff.

Record Maintenance

The types of work assignments that were called “record maintenance” were defined fairly broadly. This category was used to count any time a record needed to be updated in some way. It encompassed claiming, annotating serial records regarding delayed publications, and numbering notes or frequency changes as well as processing title changes, cessations, and cancellations. It also was the category to which staff assigned their time when they worked on record clean-up projects. A comparison of the time and costs associated with this task through the years indicates that it was a time-consuming but relatively low-cost activity center in earlier years (figures 13 and 14). The amount of time then fell significantly but the costs remained at their former level, indicating that the greater efficiencies in the work activities were more than balanced by the need for higher-level staff to accomplish them. Time and costs became closely aligned in this task; both climbed to a new plateau during the last years of this cost study, when the library migrated to its new ILS. Record maintenance is the cost center that most clearly illustrates the problems that result from a lack of standardized acquisitions data elements. Many of the record clean-up projects would not

have been necessary had the library been able to draw upon a national body of experience before creating its acquisitions records. In particular, projects addressing the linkage of Horizon records could have been avoided if the library had had the benefit of learning from other experienced ILS customers and had been able to script linkage creation into the migration development.

The amount of time spent in record maintenance was quite high in the earlier years compared to later, but the

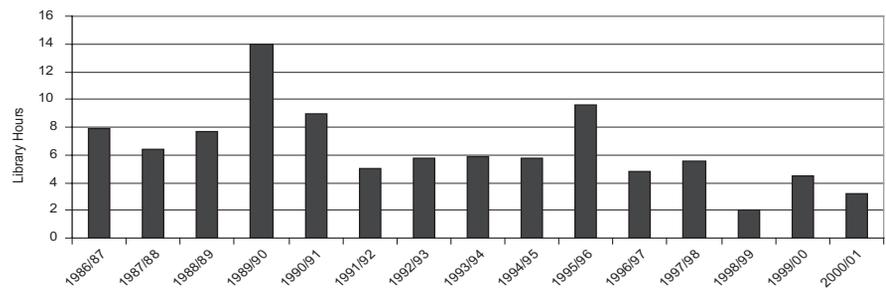


Figure 9. Searching: time

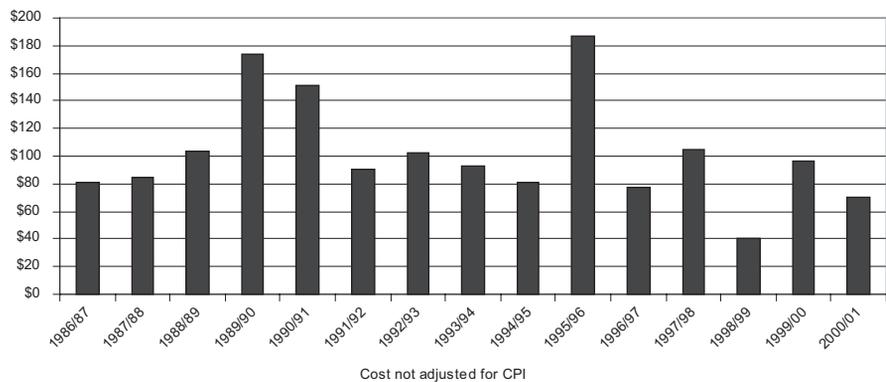


Figure 10. Searching: cost

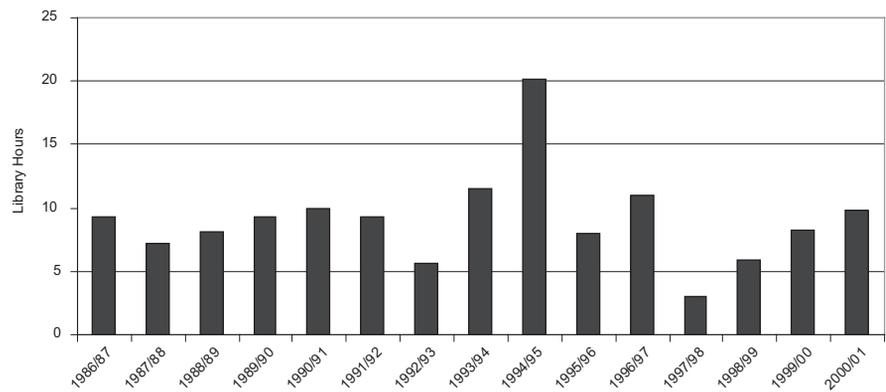


Figure 11. Ordering: time

costs were low, illustrating the impact of the library's first major cancellation project. During these years, the gathering of information as preparation for cancellation decisions was a manual process due to the lack of automation and was assigned to the department's lowest classified staff and to students. These staff members had to compile a massive list of current price information, taken from prices written on Kardex cards, in order to aid the bibliographers and campus faculty in their cancellation choices.

Starting in 1988/89, time and costs remained remarkably level for ten years, despite another cancellation project accomplished during the manual Kardex era, major vendor changes involving thousands of subscriptions, and the automation of serials Kardex activities. The cancellation project relied heavily upon data that had been collected during an earlier cancellation review and so was processed without too much additional research; the vendor change project was accomplished with the assistance of the new vendor.

During the final years of the cost study, record maintenance data reflect the migration to Horizon and the nearly constant clean-up projects required. These projects were initially required due to the implementation itself and later because of the need for better reports and statistics. As a result of these continuing tasks, time and costs rose precipitously and remained high. The change to the new ILS and the raised expectations regarding the many flexible reports the system could be capable of producing meant that record maintenance became a higher profile activity. These projects were time-consuming, and many were performed under a tight timeframe because of deadlines expected for report generation. The greater flexibility of the Horizon system led to administrators and staff envisioning new types of data to be generated or ways to convert manually maintained statistics into more accurate machine-generated statistics. Most of these needs became apparent only after the

migration, and this prompted the library to create new local fields within the acquisition records.

Other factors that contributed to the high numbers in record maintenance activities during these years were the need to create prediction patterns as part of the ILS

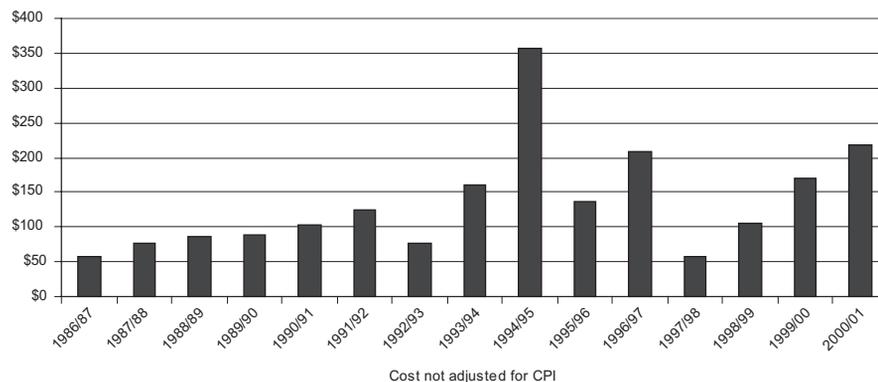


Figure 12. Ordering: cost

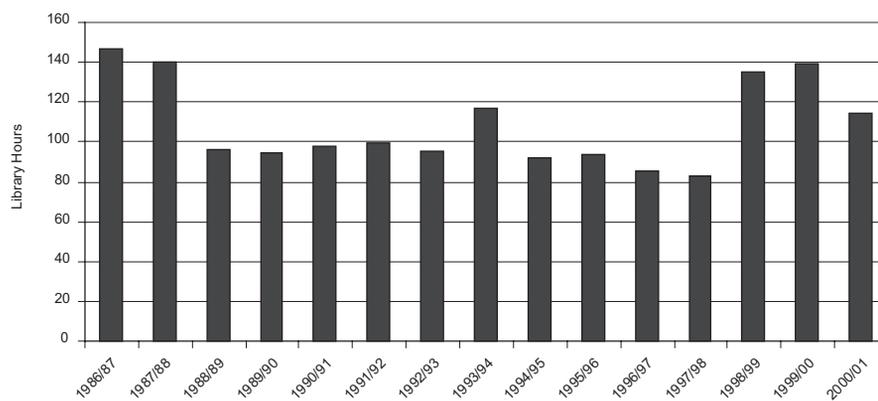


Figure 13. Record maintenance: time

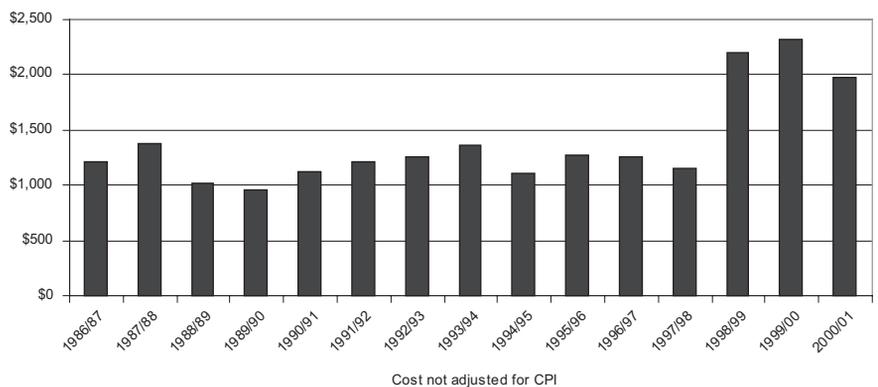


Figure 14. Record maintenance: cost

migration, a third cancellation project, and modifying the claims process to expand acquisitions of out-of-print issues. As previously mentioned, the department filled a new faculty position in 1998/99, that of electronic resources coordinator for acquisitions. In addition to ordering electronic materials, this position was also responsible for registering for access to free online materials or online resources to which the library had rights because of print subscriptions. This registration work was recorded in the record maintenance category.

Receiving

Receiving was the cost center category for the work associated with receiving serials material: check-in, labeling, and marking. It also included the opening and sorting of mail. Costs tended to increase within this activity center, even in years when time was decreasing (figures 15 and 16). Online check-in gave the library benefits in terms of public access to receipt information and better access to receipt records for the library staff, but it did result in a more complex and time-consuming work process, requiring the reclassification of the staff. Efforts were made to streamline the workflow in order to make it suitable for less expensive staff (students) to accomplish.

During the earliest years, time within this cost center remained stable, but costs slowly rose. Beginning in 1991/92, time spent in receipt tasks began to decrease; costs did not. The number of receipts (figure 17) also began to decrease during this period, as a direct result of cancellation projects.

Automation of check-in operations had the result of increasing the amount of time spent in receipts, starting in 1995/96; costs also rose, but at a greater rate. Staff, who formerly had been able to place a checkmark on a Kardex card, now had to create a receipt statement on the NOTIS Order/Pay/Receipt (OPR) record and

also had to describe the issue in terms that would be clear for the public. The implementation of NOTIS online serials receipting resulted in increased service to the public by providing current receipt information on the catalog for the first time, but it increased the time staff spent in receipt activities, especially since ISU chose not to use the NOTIS

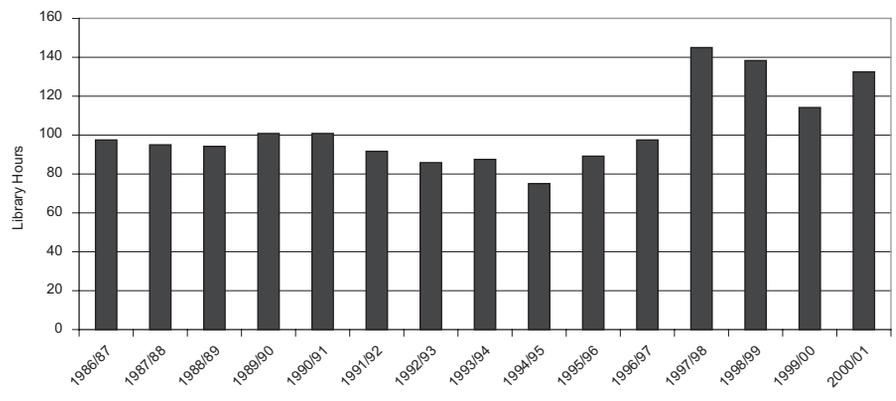


Figure 15. Receiving: time

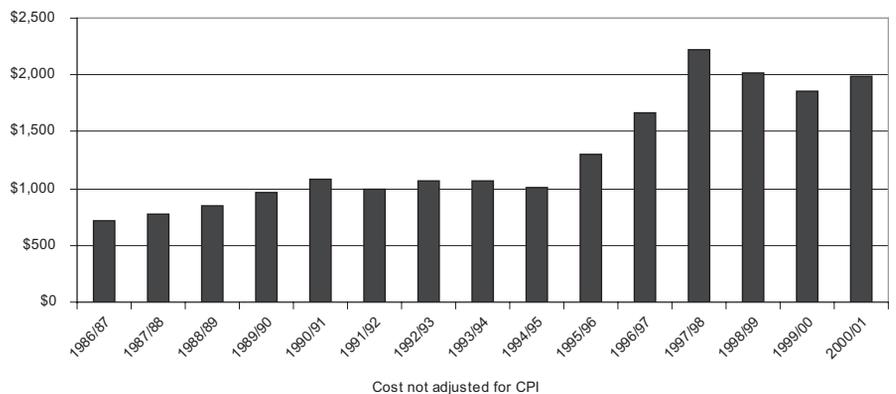


Figure 16. Receiving: cost

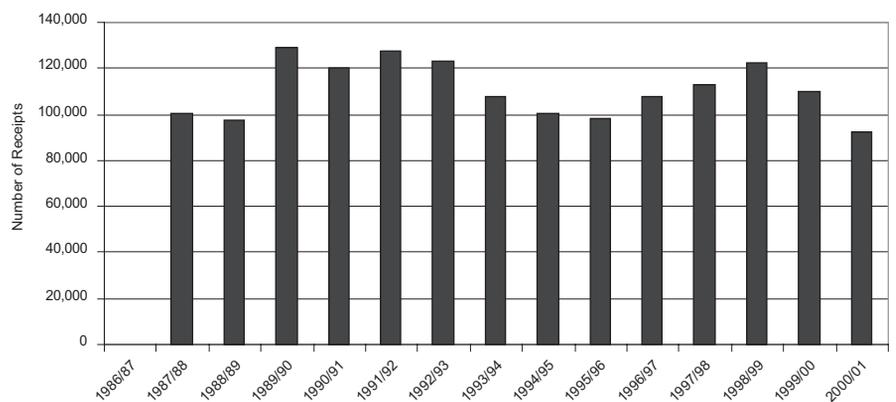


Figure 17. Serials acquisitions receipts

system's predictive check-in module. Some side benefits occurred for the acquisitions staff, as online check-in data reduced the number of enquiries from both the public and non-acquisitions staff and enabled staff members to have constant access to the check-in records. In the following year, 1996/97, time, costs, and the number of receipts all increased. These data reflect an increased amount of time required for the automated process, but the increase in numbers illustrates that staff were able to clear the backlogs that initial implementation had developed.

In 1997/98, time and costs rose to an all-time high. This was primarily due to the integration of the former government documents unit into serials acquisitions, which added both staffing and work to be accomplished. The number of receipts also rose this year, with the receipt of United States depository documents accounting for most of the increase.

During the final three years of the study, decreases in time and costs for receipts reflect the decline in the number of paper-based receipts after the library canceled print journals in order to acquire online subscriptions. Receipt data also reflect an increase in the amount of depository publications produced in electronic formats. In addition, the costs for receipt activity decreased at a greater rate than did time, illustrating the benefits of a managerial decision to employ less costly student employees to perform routine check-in duties. The library anticipates continuing to reduce time and costs for receipts as more receipt-based activities are standardized procedurally and as the trend to migrate from paper serials to electronic subscriptions accelerates.

Additional Factors Affecting Serials Acquisition Analysis

The biggest distinction that defines serials acquisitions, as opposed to library acquisitions in general, is the long-term investment that libraries have made in their serials subscriptions. Maintaining acquisitions data for serials and monographs is crucial for daily work functions and is essential for informed collection development management. Such maintenance is usually mandated by auditing authorities. However, in the case of serials, the pressure-filled economic and publishing environment has made historic acquisition analysis of specific serial titles even more important. Thus, the lack of well-defined standards hits this field of acquisitions even more drastically than it does monographs acquisitions. Serial subscriptions are subject to annual price increases, with some disciplines tending to increase at more astronomical rates than others, making collection management decisions regarding these resources an ongoing responsibility. Subscriptions are further subject to a variety of possible financial arrangements in packages or combination subscriptions, which also are

likely to change on a yearly basis. Subscriptions are typically prepaid, which is not the norm for monographs, and receipt of individual serial issues is less certain and also may suffer from unsuccessful claiming. Due to the high profile these subscriptions have on university campuses, consideration of how to maintain strong and flexible management data regarding these subscriptions is essential.

General Advances in Technology

Advances in automation, such as the advent of personal computers and e-mail, have lessened the need for clerical work. Letters and reports can be prepared by a document's originator rather than being drafted and handed to the departmental secretary to finish. Personal computers have enabled the staff to create claim letters based on established templates. These letters appear to be individually typed and thus elicit a better response from the publisher than the library's old claim form. In later years, staff also began using e-mail messages for claims or utilizing the online claim system set up by subscription agents. When the integrated library system's ability to produce claims and purchase orders became a reality after the NOTIS conversion, this also sped up the production of correspondence and made it more accurate, since the ILS supplied the vendor name and address, title, and other bibliographic data, as well as acquisitions data, such as the purchase order number.

Cancellation projects were greatly expedited by automation and word-processing. Although the 1999/2000 cancellation process was still time-consuming for the serials acquisitions staff, the advance preparation work accomplished in creating relevant data fields in the library ILS for use in producing accurate lists and the ability to prepare and generate cancellation letters through word processing and spreadsheets streamlined the process considerably. During the two earlier projects, bibliographers had been required to send their cancellation requests to the department by February in order to write all of the cancellation letters and update records in time. In the 1999/2000 project, the acquisitions department was able to give the bibliographers until June to forward their requests to the department and was still able to accomplish the cancellations by the end of the fall renewal period.

Staffing Changes

The conversion to NOTIS and the added complexity of the receipt work caused the library to reclassify the lower-level staff positions. Some changes in the classifications of some upper-level staff occurred when restructuring and administrative changes resulted in the elimination of a vacant faculty position. However, in later years another faculty position was created when the need for staffing devoted to electronic resource pro-

curement became apparent. In 1997/98, serials acquisitions was able to separate the routine from the complex check-in duties and to hire students to perform routine check-in when a lower-level staff position responsible for check-in became vacant. This change helped contain the increasing cost of serials acquisitions activities and to keep the costs from rising higher than they otherwise would have.

Restructuring

Serials acquisitions was involved in a large number of restructuring initiatives over the years of the cost study. One important change that affected the department's time and cost study centers was the addition of the government publications unit to serials acquisitions in July 1997. It was integrated with all of its workload duties, but required fewer staff than it had when independent. It had been previously administered by a high-level staff member, but this position did not transfer along with the other staff and work. Instead, the department received additional funding to hire student assistants. Serials acquisitions personnel had only recently automated their own work and were able to recognize ways in which specialized government documents workflows could be streamlined yet still remain suitable for government depository requirements

Electronic Serials

Over the years of this cost study, electronic serial resources have evolved from a few indexes and abstracts in a CD-ROM format to a vast number of complex resources that have changed the nature of acquisitions work and subsequently redefined staffing needs. By 1999, the ISU library had realized the need for a full-time staff member to handle the acquisition of these resources—a professional librarian with the broad perspective to understand how this work would need to change over time in an evolving area of publication and librarianship. This staff member needed to be able to undertake difficult and frustrating publisher communications and to deal tactfully with both library staff and patrons in handling expectations that this material could be obtained instantly.

Acquisition of electronic resources is characterized by complex subscriptions arrangements, which can include partnerships with other libraries, packages involving multiple titles, and license clauses prohibiting cancellations of either print or online titles within the time period of the signed license. The yearly renewal period of serial subscriptions has developed into a time of frantic consultation with other library colleagues and vendor representatives, all under very tight timeframes. The more recent trend of obtaining a large number of online journals in publisher packages has brought to the fore a new problem: what would happen when a publisher bought a new journal

or, worse, sold off an old journal? The library could lose access to the new issues of the journal in question, unless it subscribed to the journal separately or it became part of another publisher package that the library already had.

This had never been a problem in the print environment, where the library's serials agent ordered titles without the need for any action on the library's part. As the library continues the trend to migrate from paper to online serials, acquisitions management needs to assess the impact on staffing. ISU can anticipate that less staffing will be needed for check-in of paper issues, but the amount of work involved in acquisition, claiming, maintenance, and record keeping of electronic resources has grown beyond what one person can handle.

Local Serials Acquisitions Code Creation

ISU library managers first recognized the need to create local standards for acquisitions data elements during the preparation for automation of manual records in the NOTIS system. Analyzing the library's likely future needs led to the identification of key pieces of data that were required for inclusion in unique fields where they could be manipulated for reporting purposes. The subsequent use of these data elements for reports and statistics proved their worth, so that they were retained for the ILS migration to Horizon. In addition, the greater flexibility found in Horizon's relational database led to the creation of more fields for data elements and further refinements of the existing codes. In some of the clean-up projects associated with the record maintenance cost center, staff had to retroactively key information within existing records in order to enable the library to use the new or redefined data fields.

The following proved to be the most significant data elements:

- *Estimated annual cost.* This field was particularly valuable for allocating cost when serial titles came in combination packages. It was updated whenever invoices were paid. In conjunction with the subject code (see below), this field enabled the library to manage subscriptions and standing orders and to prepare for required cancellation projects by producing cost comparisons in the various subject disciplines over the course of the years. These locally generated statistics were considered to be more valid by the campus community than any vendor-produced report had been, because the vendor reports only covered portions of the library's serial subscriptions.
- *Subject code.* For management purposes, the subject code could not be linked directly to the fund code, since the library required the flexibility of altering this code as academic disciplines changed, or as jour-

nal content changed.

- *Claiming code.* This was used to sort claims so that subscriptions, gifts, and exchanges could be reviewed by the appropriate individual within the department and to enable the library to prioritize claims. An unanticipated side benefit to this field was its usefulness in identifying electronic materials for library surveys and expenditure reports.
- *Subscription publisher code.* This code was particularly meaningful in tracking the expenditures involving publishers that produced expensive titles. It has proved its usefulness time and again when the library has been asked to participate in Association of Research Libraries (ARL) surveys or questionnaires. Bibliographic fields for publisher information in the MARC records had been deemed inadequate for serial subscription management information, as the publisher field was based on a single issue (usually the first one), and the library could not depend upon the bibliographic record containing current publisher information.
- *Combination purchase.* This field identified titles with financial relationships to other titles. It was used in cancellation project preparation, since it highlighted the subscriptions where complex decision making were required and was used to alert library staff that the estimated annual cost of more than one title might be affected by an invoice.
- *Linkage.* These fields were already in existence in Horizon. The library's information technology staff made them visible and alterable, which was essential given the relational database structure of Horizon and the way in which the library envisioned utilizing acquisitions data elements located in various modules.

The need for more standardized fields of acquisitions data elements has become very apparent. Planning for the local fields necessary for building and maintaining an electronic subscription and license database is currently underway at ISU and would have benefited significantly from extractible data fields that had been uniformly constructed according to universal acquisitions data elements. Extrapolating from personal knowledge about how useful the local codification of acquisitions data elements has been at ISU, the authors speculate that the pooled experience of other professional acquisitions managers would reveal unforeseen possibilities.

Conclusions

Serials holdings have evolved to become one of the most

important indicators of a library's value as a resource for disseminated scholarship and information. ARL includes current serial totals in the list of eighteen benchmarks used in ranking ARL members.¹⁹

This analysis of ISU's serials acquisitions activities demonstrates the difficulty in trying to control or reduce the time and costs associated with acquiring these resources in an environment where automation speeds up routine functions and improves accuracy, but also raises user expectations and requires considerable staff empowerment for decision making. The most fruitful area for serials cost containment has proven to be record maintenance, wherein a great deal of post-automation time and resources have been placed.

One of the most compelling needs shown is the requirement to have standards applied down to the most granular level possible of the serial acquisition record. Automation in serials acquisitions can accomplish much. However, the need to constantly rethink and reconfigure data, usually manually, in response to new demands for information, call for the need for more thorough and rigorous restructuring of acquisitions records. This is compounded by the long usage life of serials records as compared to monograph records, which only need to be worked upon for the duration of a single ordering event. At ISU, the discrete local fields created in NOTIS were easily migrated to the new ILS, Horizon, and continue to function usefully in providing flexible data and enabling greater efficiency of acquisitions workflows.

The ISU library has often required the acquisitions department to produce various reports for management tools or surveys, which has either necessitated that the department undertake a major project to make the online records more suited to new library needs (such as creating or correcting links to bibliographic records and copy records) or the creation of new local fields. This has required acquisitions staff to spend a considerable number of hours completing various individual requests, a number that could be significantly reduced or eliminated by introducing uniform data elements into serials records. Such standard elements would enable the extraction of more useful data fields for such reports than is now currently possible, without those standards being in place. If the acquisitions department had not needed to pursue these activities, possibilities for reducing staffing, accomplishing new initiatives, and providing the library and its patrons with improved service would have existed.

Individual libraries are now committing time and money to create separate sets of standard data elements, a continual reinvention of the wheel. As a library's ILS undergoes upgrades, the library is then required to expend further time and effort to ensure that the local modifications migrate to each upgrade, which in some instances may be impossible. If these local modifications were used to inform

the creation of unified national or international standards of mandatory and optional acquisitions fields, all would benefit. Local standards are not really standards at all. An industrywide and academiawide set of standards for acquisitions processing information, defining how acquisitions librarians can parse, encrypt, display, and utilize this information, would enable many libraries to reap huge benefits in terms of management data, and of finding opportunities for reassigning staff time to meet new needs.

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Why Do You Still Use Dewey?

Academic Libraries That Continue with Dewey Decimal Classification

Jay Shorten, Michele Seikel, and Janet H. Ahrberg

Reclassification was a popular trend during the 1960s and 1970s for many academic libraries wanting to change from Dewey Decimal Classification (DDC) to Library of Congress (LC) Classification. In 2002, Southern Illinois University at Carbondale's Morris Library changed from DDC to LC. If one academic library recently converted, might other DDC academic libraries consider switching, too? Conversely, for those academic libraries that remain with DDC, what are the reasons they continue with it? A survey of thirty-four DDC academic libraries in the United States and Canada determined what factors influence these libraries to continue using DDC, and if reclassification is something they have considered or are considering. The survey also investigated whether patrons of these DDC libraries prefer LC and if their preference influences the library's decision to reclassify. Results from the survey indicate that the issue of reclassification is being considered by some of these libraries even though, overall, they are satisfied with DDC. The study was unable to determine if patrons' preference for a classification scheme influenced a library's decision to reclassify.

In the 1960s and early 1970s, reclassification of library collections from the Dewey Decimal Classification (DDC) to the Library of Congress (LC) Classification was a major trend in academic libraries, primarily for the economic reasons of improving efficiency in cataloging and reducing processing costs. Many of the libraries that did convert to LC were left with split collections when reclassification projects were ended because of decreased budgets. As the trend to reclassify faded, new trends took its place, beginning with automating library functions and later providing electronic access of information via the Internet. Reclassification appeared to be as passé as Melvil Dewey's spelling improvements.

However, is reclassification really obsolete? In 2002, the Morris Library of the Southern Illinois University at Carbondale changed from DDC to LC.¹ If one academic library recently converted from DDC to LC, might other DDC academic libraries be considering switching, too? Conversely, for those academic libraries that remain with DDC, what are the reasons that they continue to do so?

At Oklahoma State University (OSU) Library, a DDC institution and the home of two of the authors of this article, users' awareness of the different classification systems is apparent when faculty and graduate students raise the question, "Why do you continue to use DDC?" That DDC query often

Jay Shorten (jshorten@ou.edu) is Assistant Professor of Bibliography, Cataloger, Monographs and Electronic Resources, University of Oklahoma Libraries, Norman. **Michele Seikel** (seikelm@okstate.edu) is Assistant Professor/Cataloging Librarian, Oklahoma State University Library, Stillwater. **Janet H. Ahrberg** (jahrber@okstate.edu) is Assistant Professor/Cataloging Librarian, Oklahoma State University Library, Stillwater.

results in the library administrators having to explain OSU's choice of remaining a DDC library. Do others academic DDC libraries receive similar comments, and do patron preferences for a classification scheme influence a library's decision to reclassify? This paper examines why DDC libraries remain with DDC, the status of reclassification at these institutions in the United States and Canada, and whether libraries consider the patron in reclassification decisions.

Literature Review

The majority of publications on reclassification appeared during the 1960s and 1970s. By the 1990s, the number of articles on the topic dropped considerably, indicating a loss of interest. The call to reclassify was most often expressed in terms of LC advantages over DDC disadvantages. Downey and Taylor both note the efficiency and economy of using LC-produced catalog cards with an LC classification number already assigned. In contrast, only a minority of cards was produced with DDC numbers.²

LC was considered more flexible and expandable, and had shorter numbers than DDC, thus the claim that LC is better suited for academic libraries. Other reasons cited were the numerous revisions in the DDC schedules with each new edition and the local practices that were instituted to compensate for those changes. Without reclassification of the library's existing collection, the new material on the same subject would be scattered.

Later, the influence of the bibliographic utility OCLC aided the cause of switching to LC. Chressanthis notes, "Many libraries thought it a good idea to 'join the bandwagon' and start using LC when joining OCLC."³ She adds that the bibliographic utility provided easier access to LC cataloging and classification numbers than previously available, as well as assistance in retrospective cataloging.⁴ Dougherty stresses the cost factor of reclassification. He notes that the factors influencing a library's decision were size, age, and the organization of the collection, type of library, nature of the building, political environment, and financial support.⁵ Gaines and Chressanthis both emphasize the decisions and planning needed by a library that has already decided to reclassify.⁶

Most of the reclassification literature was written in the context of the card catalog environment. However, Dean compares the steps taken to reclassify in a manual and an automated environment. She concludes that utilizing an automated system to help with a reclassification project would make it more feasible, and thus rekindle an interest in reclassification.⁷

Some libraries did take advantage of the automated environment for reclassification projects. Pattie reports her

institution, the University of Kentucky, used the NOTIS System for their reclassification project.⁸ Other libraries, Pattie notes, such as the Australian National University Law Library, the University of Oregon, and Occidental College, hired vendors for their reclassification projects.⁹ Talmadge notes the decision by the University of Illinois against reclassification to LC was in part a matter of the high cost of converting to LC and not wanting to risk jeopardizing the library's relationship with its faculty by having a split collection, which would be more difficult to use.¹⁰

In addition, LC is not without its own problems. Chressanthis found several reasons: lack of a comprehensive guide to interpret the LC schedules and tables, lack of Cutter numbers in PZ3 and PZ4, the relocation of different class numbers resulting in having to review the number that appeared on the LC printed card in the updated LC schedules, obsolete call numbers reprinted on LC cards, and disagreements with LC's Cuttering and arrangement of translations and other editions to the original work.¹¹ The impact of the user on reclassification was only briefly mentioned, mostly to address the problem of users having to learn two classification schemes for a split collection. However, the issue of the user was raised early by Moriarty, when he observed:

Don't we classify any more to help the reader get books? In reading Thelma Easton's recent survey of the classification situation in our libraries, I was struck by her comment that apparently so few of us professionals today talk about classification to help the reader; we mainly talk about rapid or cheap classification, that is practical reclassification.¹²

Users do seem to show an interest in reclassification. Pattie reports that during the planning of a new library building at the University of Kentucky, the issue of reclassification arose through discussion with faculty and students, much to the surprise of the administration.¹³ Woolf mentions also the support of faculty at Southern Illinois University for their library's switch to LC, but they also raised concerns about having a split collection.¹⁴

Research Methods

A survey consisting of 24 questions with a cover letter was sent out via e-mail to 126 libraries in fall 2003 (see appendix). These libraries were junior, community, private, and technical colleges, with a few major academic research libraries. The survey sample was relatively small, with only 121 United States and 5 Canadian libraries identified. The survey response rate was 26 percent (34 returned responses) with 33 American libraries and 1 Canadian library participating.

The *Statistical Abstract of the United States* reports that in 2000, the total number of academic libraries in the United States and Canada was 4,777, a number that includes junior colleges, colleges, and universities.¹⁵ Attempting to compile a list of DDC libraries to sample from such numerous academic libraries proved to be problematic, as no comprehensive list of DDC academic libraries was found; furthermore, these libraries are in the minority, according to OCLC. In an internal research project several years ago, OCLC reported that only 25 percent of colleges and universities in the United States use DDC, while 95 percent of all public and K–12 schools in the United States use it.¹⁶ Therefore, to help ensure an adequate sample size, a broad, working definition of academic library was used for the survey. An academic library was defined as any library serving a post-secondary education campus.

A starting point for compiling a list of DDC academic libraries was OCLC's DDC Online Catalogs Web site, in which numerous academic libraries in the United States, along with their Web addresses, were listed.¹⁷ OCLC's policy for including these DDC libraries on its Web site is based on a voluntary request on the part of the library to be listed, regardless of whether OCLC initiated the request on its part or whether the library is an OCLC member.¹⁸ Next, the *American Library Directory* was consulted.¹⁹ Although the directory did not provide the needed data on a library's classification scheme, it was helpful to determine a complete list of Canadian libraries. Forest Press, then publisher of the *Dewey Decimal Classification*, provided further assistance in the form of a list of 248 libraries in the United States and Canada subscribing to WebDewey.²⁰ However, the list contained duplicate entries, resulting in an even smaller pool than expected, and the size and type of academic libraries varied considerably.

All surveyed libraries' Web sites were searched to verify that DDC was used as the library's primary classification scheme and for appropriate e-mail addresses of technical services department heads or the equivalent. The technical services supervisors at both of the authors' institutions reviewed drafts of the survey and provided feedback. The survey was divided into three sections. The first section was designed to identify the size of the surveyed libraries' collections and their cataloging practices. The second section addressed the libraries' reasons for continuing with DDC and any past or future plans to convert to LC, and the third section surveyed whether or not users influence a library's classification decisions. A second copy of the survey was sent as a follow-up to those institutions that did not respond to the first mailing. Respondents whose answers to questions needed further clarification were contacted by e-mail.

Analysis of the responses was conducted using two types of statistical tests. A binomial test was performed on

the response values involving two choices, which were usually "yes" or "no." This test determined if the number of responses in each category was statistically significant, or whether the pair of numbers could have been expected to result from any random sample. If the question passed the binomial test, the library's response was considered typical of a DDC academic library.

Some of the questions were asked to elicit a judgment on the importance of a reason. Respondents were to indicate from three options whether the reason was "more important," "less important," or "not a reason at all." These responses were analyzed with the second type of test, the chi-squared, goodness-of-fit test. If the responses passed the test, the authors concluded that a consensus had been reached among libraries about that reason's importance. In general, if the goodness-of-fit test failed, the failure was a pointer that no conclusions could probably be made. However, analysis of the failure led to one of two possibilities: (1) the issue was considered by the library community, but no consensus has been reached on its importance (as passing the goodness-of-fit test requires that the responses be weighted towards one of the choices); rather, each library decided the importance of the issue based on local factors, practices, and issues not replicable or relevant across the DDC library community; or (2) the issue has not been considered by the library community, so the responses to the question would not have been based on a long-standing practice or common knowledge.

The three responses from the goodness-of-fit test were then grouped into two categories, "a reason" and "not a reason" by combining the "more important reason" and "less important reason" categories. A binomial test was performed on these two categories. If the question passed, the response was considered to show a consensus on whether or not the issue was a reason. The importance of the reason was then determined by performing a second binomial test between "more important" and "less important." Sometimes the goodness-of-fit test and the first binomial test provided contradictory results. These cases are discussed within the text of this paper.

Results

The libraries surveyed held a minimum of 35,000 and a maximum of 4,200,000 titles, with a median of 115,000 titles. The mean number of titles was 310,000 and the standard deviation was 720,000. The largest library had a number of titles that was more than five standard deviations beyond the sample mean, but the second largest library had a number of titles that was only one standard deviation beyond the mean. Since the largest library with 4.2 million

titles could be considered an outlier, and therefore not truly representative of the sample, a second set of statistics was calculated. The remaining libraries had a maximum of one million titles, with a median of 110,000; the mean number of titles was 192,000 and the standard deviation was 220,000. This second set indicates that most of the libraries responding were smaller, which is not surprising since many of the libraries were from technical, junior, and community colleges. However, since the data set was rather small and every datum was needed for analysis, the authors decided to include the largest library.

These institutions catalogued a minimum of 1,000 titles per year, and a maximum of 60,000, with a median of 3,500 titles. The mean number of titles catalogued was 7,700 and the standard deviation was 12,400.

Next, the survey asked whether catalogers or paraprofessionals assign the DDC call numbers and how many staff of each type assign call numbers. Nearly half the libraries have catalogers rather than paraprofessionals assigning the call numbers. The minimum number of paraprofessionals who assign call numbers was 0; the maximum, 24; with a median of 0, a mean of 1.5 and a standard deviation of 4.2. The minimum number of professionals who assign call numbers was 0; the maximum, 9; the median, 1; the mean, 1.5; with a standard deviation of 1.6.

Although these were DDC libraries, only 9 libraries classed all their materials in DDC, while the remaining 25 libraries did not. A binomial test reveals there is a significant preference not to classify everything in DDC, $n = 34$, $z = -$

2.74, $p < .05$. The significance holds even when $p < .01$. This indicates the typical DDC library classifies some parts of its collection using other systems.

The survey found that libraries would often use more than one classification system for a given type of material. However, in most cases, one classification system would predominate in that library for a material, and the discussion that follows refers to the predominant use.

Table 1 shows that all thirty-four libraries classify monographs in DDC with a few using LC and the Superintendent of Documents Classification (SUDOC). Libraries also indicated that local schemes were employed for special collections, genealogy, local history, children's literature, fiction, and biography collections.

As for serials, almost one-third of the libraries prefer to use accession numbers or arrange them alphabetically by title rather than assign a DDC number (see table 2).

Certainly, some of these libraries with small collections and staffs do not classify serials in order to save processing time. One library used DDC half of the time and alphabetical arrangement of titles the other half of the time, while 3 libraries did not provide clear answers. Twenty-three libraries catalog their government documents with DDC, while only 10 use SUDOC (see table 3).

The use of DDC instead of SUDOC here probably indicates that for most of these libraries documents are shelved together with the main collection (instead of separately) and are the materials they plan to keep rather than removing them after five years as selective depositories can do. For

Table 1. Libraries' practices for classifying books

	Maximum %	Minimum %	Mean %	Median %	Standard Deviation	No. of Libraries Using Format	% of Libraries Using Format	No. Using for Majority of Items	% Using for Majority of Items
DDC	100.0	70.0	96.6	100.0	8.5	34	100.0	34	100.0
LC	30.0	1.0	12.3	9.0	13.4	4	11.7	0	0
SUDOC	3.0	1.0	1.8	2.0	0.8	5	15.0	0	0
Other	30.0	2.0	9.1	5.0	9.8	10	29.4	0	0

Table 2. Libraries' practices for classifying serials

	Maximum %	Minimum %	Mean %	Median %	Standard Deviation	No. of Libraries Using Format	% of Libraries Using Format	No. Using for Majority of Items	% Using for Majority of Items
DDC	100.0	30.0	91.4	100.0	19.8	21	61.8	19.5*	57.4
LC	15.0	15.0	15.0	15.0		1	2.9	0	0
SUDOC	10.0	1.0	4.7	3.0	4.7	3	8.8	0	0
Accn. #	100.0	100.0	100.0	100.0		2	5.9	2	5.9
Other	100.0	2.0	79.3	100.0	32.6	12	35.3	9.5*	27.9

*One library used Dewey for half its serials and alphabetical arrangement of titles for the other half.

nonprint materials, DDC was the choice of the majority of libraries (see table 4). This may mean that these libraries find DDC easy to use for organizing non-print materials and that using one scheme is more efficient.

Question 6 was one of several questions in the second section for which the statistical results were found to be inconclusive, since they generated a number that could be expected to come up at random. This question, regarding whether or not DDC libraries accept call numbers found on catalog copy, found 22 libraries accepted the number, while 11 libraries did not. Testing at the .05 level of significance, a binomial test reveals there is not a significant preference to accept call numbers found on catalog copy, $n = 33$, $z = 1.91$. However, because the result of the test is so close to the z value, that would pass the test (1.96), the test cannot be taken as decisive. A larger sample may have found the preference to be significant.

Question 7 addressed the shortening of DDC call numbers to a certain number of digits beyond the decimal from numbers on catalog copy. Twenty of the libraries shorten their call numbers, while 14 do not. Testing at the .05 level of significance, a binomial test reveals that there is not a significant preference to shorten DDC call numbers found on catalog copy, $n = 34$, $z = 1.03$. One might conclude that the practice of shortening the DDC number from catalog copy is not a universal practice. For the libraries that did shorten their call numbers, the maximum number of digits shortened to which a call number is shortened is 12, the minimum is 3, with a median of 4, a mean of 5.1, and a standard deviation of 2.3. These libraries probably do this to process materi-

als more quickly through cataloging and onto the shelves. Another possible reason for shortening the number is that DDC numbers can become very long, making them difficult for the user to read. Also, some label printers may only allow a fixed number of digits after the decimal per line.

No statistical conclusions could be drawn from question 10, which asked if libraries use optional DDC numbers (such as numbers in parentheses) for some topics. Eleven libraries use optional numbers, while 20 do not. Testing at the .05 level of significance, a binomial test showed there is not a significant preference, $n = 33$, $z = -1.62$.

All of the libraries surveyed except one use the DDC 21 full edition, the current edition at the time the survey was administered. The one exception was a library that used the current abridged version, the thirteenth DDC edition at the time of the survey. The results indicate that academic libraries use the latest DDC edition and want to stay current with the changes and new additions to DDC numbers. Another possible factor is that libraries that use WebDewey may only have access to the latest version.

The majority of libraries did not use different DDC editions to classify. Only 5 used a different edition, while 29 did not. A binomial test reveals a significant preference to use the same edition, $n = 34$, $z = -4.12$, $p < .05$. The significance holds even when $p < .001$. Efficiency and consistency are probably the reasons that so many of these libraries chose to use the same edition of DDC to classify everything. Using a different DDC edition requires training staff, changing call numbers found on cataloging copy to older edition call numbers, and monitoring staff to meet local practices.

Table 3. Libraries' practices for classifying government documents

	Maximum %	Minimum %	Mean %	Median %	Standard Deviation	No. of Libraries Using Format	% of Libraries Using Format	No. Using for Majority of Items	% Using for Majority of Items
DDC	100.0	2.0	80.2	100.0	37.4	29	85.3	23	67.6
LC	30.0	30.0	30.0	30.0		1	2.9	0	0
SUDOC	100.0	43.0	88.5	98.0	17.6	11	32.4	10	29.4
Other	43.0	20.0	31.3	31.0	15.9	2	5.9	0	0

Table 4. Libraries' practices for classifying nonprint materials

	Maximum %	Minimum %	Mean %	Median %	Standard Deviation	No. of Libraries Using Format	% of Libraries Using Format	No. Using for Majority of Items	% Using for Majority of Items
DDC	100.0	5.0	87.3	100.0	23.7	31	91.2	27	79.4
LC	95.0	20.0	48.3	30.0	40.7	3	8.8	1	2.9
SUDOC	50.0	50.0	50.0	50.0		1	2.9	1	2.9
Accn. #	55.0	2.0	20.3	15.0	20.6	6	17.6	1	2.9
Other	100.0	2.0	46.2	33.0	41.7	6	17.6	2	5.9

As for the 5 libraries that used a different DDC edition to classify some topics, it was not surprising that music and literature were named as the topics they classify differently. Since the drastic DDC 20 schedule revisions to the 780s for music, libraries had a choice of either assigning the older DDC numbers so the materials would shelve together or using the revised scheme from the new edition, resulting in the scattering of materials. With literature, the problem is the difficulty in following the sometimes lengthy and cumbersome notes for building numbers in table 3, which was expanded in DDC 19 with the supplementary table 3-A. The numbers can also become quite long in both literature and music. The survey did not ask if libraries reclassify their collections when the DDC number is revised.

Only 8 libraries use specialized DDC schedules, and some of those libraries revealed that they had developed their own in-house schedules for certain subjects. Twenty-three libraries do not use specialized schedules. A binomial test reveals a significant preference not to use specialized schedules, $n = 31, z = -2.69, p < .05$.

The limited use of specialized schedules reflects that, in general, only larger academic libraries would find them useful. Another factor would be the training needed and the efficiency issue of having to interrupt workflow to use them. Nevertheless, numerous libraries commented that they had adapted DDC with locally devised systems for

literature, computer science, special collections, and curriculum materials.

Question 13, in the second section of the survey, was directed at the practical reasons for continuing with DDC and not converting to LC (see tables 5 and 6). For questions 13, 14, and 16, the reasons are discussed in order of how many libraries considered them “more important.” Of the 7 reasons, the data showed the greatest number of libraries (21, or 62 percent) thought that “lack of staff to handle a reclassification project” was the most important reason for continuing with DDC. Libraries showed a significant preference on the question concerning “lack of staff to handle a reclassification project” as a reason for not switching. The binomial tests showed a significant preference for that being a reason, and a significant preference for it being a major reason not to switch.

The goodness-of-fit test showed a significant preference for “lack of resources for a major shift of the collection” as a reason for not switching. The binomial test reveals a significant preference for that being a reason and a significant preference for it being a major reason not to switch.

Another important reason not to switch to LC was “reclassification cost.” The goodness-of-fit test showed a significant preference on the question concerning “reclassification cost” as a reason for not switching. The binomial test reveals a sig-

Table 5. Practical reasons for continuing with DDC

	More important		Less important		Not a reason		No response	
	No.	%	No.	%	No.	%	No.	%
13a. Lack of resources to shift collections	19	56	6	18	8	24	1	3
13b. Reclassification costs	19	56	6	18	8	24	1	3
13c. Lack of staff	21	62	4	12	8	24	1	3
13d. To avoid a split collection	14	41	7	21	12	35	1	3
13e. Reclassification no longer a priority	14	41	8	24	11	32	1	3
13f. Historical practice of classifying using DDC	15	44	8	24	9	26	2	6
13g. Administration's preference for DDC	8	24	5	15	19	56	2	6

Table 6. Summary of Statistical Tests for Practical Reasons*

	χ^2 (2) significance of response set			Binomial I Is it a reason?		Binomial II Is it a major reason?		
	n	χ^2	p	z	p	n	z	p
13a.	33	8.91	0.05	2.96	0.005	25	2.60	0.01
13b.	33	8.91	0.05	2.96	0.005	25	2.60	0.01
13c.	33	14.36	0.001	2.96	0.005	25	3.40	0.001
13d.	33	2.36	No	1.57	No	21	1.53	No
13e.	33	1.64	No	1.91	No	22	1.28	No
13f.	32	2.69	No	2.47	0.05	23	1.46	No
13g.	32	10.19	0.01	-1.06	No	13	×	×

*Refer to table 5 for the reasons.

“n” = number of respondents; “p” = maximum level of significance for which the preference holds. If the preference is not significant, “No” is entered. “×” = test not performed. “ χ^2 ” and “z” = the values the tests produce. The goodness-of-fit test has two degrees of freedom.

nificant preference for that being a reason and a significant preference for it being a major reason not to switch.

For the reason, “historical practice of classifying using DDC,” the goodness-of-fit and first binomial tests contradicted each other: the former gave a response of “not significant” and the latter, “significant.” Of the two tests, the binomial test is likely the better guide as it groups the answers in a clearer form, a simple yes or no. Although one can interpret this as meaning there is a significant preference for this being a reason not to switch, one can interpret the goodness-of-fit test as meaning libraries are not agreed on how important the reason is. This interpretation is supported by the results of the second binomial test, which showed no significant preference for it being a major or minor reason.

Neither one of the tests revealed any significant preference for “avoiding a split collection” or “reclassification no longer a priority” being reasons not to switch to LC. Finally, although the goodness-of-fit test points to “administration’s preference for DDC” as being a significant reason, the first binomial test indicates it is not. Again, the binomial test is probably the better guide. The second binomial test could not be validly performed since not enough libraries stated that the “administration’s preference for DDC” was a reason.

Several respondents commented when asked to give other reasons for staying with DDC. “Patrons are familiar with it,” “no change is needed,” “Dewey is infinitely expandable,” “patrons can browse it easily on their computers,” “our library’s clientele use Dewey in the teaching profession,” and “we just prefer Dewey” were given as more important reasons, while “Dewey is used in other local

libraries,” “Dewey is used internationally,” and “we recently had a reclassification project to Dewey” were given as less important reasons.

Question 14 considered whether DDC’s characteristics contribute to academic libraries’ continuing its use (see tables 7 and 8). The two characteristics that libraries liked most about DDC were “its hierarchical structure” and that it allows for “close and broad classification.” Of the two, the “hierarchical structure” was clearly preferred as a major reason: the goodness-of-fit test showed the pattern of responses was significant, the first binomial test showed a significant preference for “hierarchical structure” being a reason, and the second binomial test showed a significant preference for its being a major reason. The goodness-of-fit test showed the pattern of responses for “close and broad classification” was significant. The first binomial test showed there is a significant preference for “close and broad classification” being a reason, but the second test showed there was no agreement on its being a major reason.

The statistical tests for the other two DDC characteristics, “flexible in the selection of the classification number” and “accommodates new subjects,” reveal that although they were reasons, they were not major reasons. Both tests failed the goodness-of-fit test and the second binomial test, but passed the first binomial test. Again, the first binomial test is the better guide here: libraries agree either characteristic is a reason, but did not agree that either is a major reason.

Libraries were asked in question 15 if converting to LC was something they had ever considered (see table 9). Fifteen libraries never considered converting, while 14 libraries had. Four libraries responded with “don’t know.” Of the libraries

Table 7. DDC characteristics

	More important		Less important		Not a reason		No response	
	No.	%	No.	%	No.	%	No.	%
14a. Hierarchical in structure	21	62	7	21	5	15	1	3
14b. Allows for close and broad classification	17	50	12	35	4	12	1	3
14c. Flexible in the selection of the classification number	15	44	12	35	5	15	2	6
14d. Accommodates new subjects	14	41	10	29	8	24	2	6

Table 8. Summary of statistical tests for DDC characteristics*

	χ^2 (2) significance of response set		p	Binomial I Is it a reason?		p	Binomial II Is it a major reason?		
	n	χ^2		z	p		n	z	p
14a.	33	13.82	0.001	4.00	0.001	28	2.65	0.01	
14b.	33	7.82	0.05	4.35	0.001	29	0.93	No	
14c.	32	4.94	No	3.89	0.001	27	0.58	No	
14d.	32	1.75	No	2.83	0.005	24	0.82	No	

*Refer to table 7 for the characteristics.

“n” = number of respondents; “p” = maximum level of significance for which the preference holds. If the preference is not significant, “No” is entered. “ χ^2 ” and “z” = the values the tests produce. The goodness-of-fit test has two degrees of freedom.

that had considered converting, 3 had done so within the last three years. Interestingly, between 1980 and 2003, 10 of the libraries had considered converting after the trend to reclassify had reached its peak.

Question 16 asked about possible reasons that would lead libraries to change from DDC to LC (see tables 10 and 11). Only two statistical tests could be performed with this set of questions. The second binomial test could not be performed as no question had at least 20 libraries reporting any of the statements to be a reason. Only two reasons passed either statistical test: “library expansion” and “administration wants to convert.” The other five failed both tests. This failure is very likely because the questions asked were hypothetical. A survey of libraries that recently switched to LC

or are in the process of switching might have given clearer, more statistically significant answers, since the question to them would not have been hypothetical.

The reason “administration wants to convert” is ambiguous. It passed the goodness-of-fit test, but failed the binomial test. If this question were interpreted consistently with the other questions, where the first binomial test and the goodness-of-fit test contradicted, one could conclude that it would not be a significant reason to convert. The fact that the question passed the goodness-of-fit test is likely to be an artifact of the test and the question’s having three choices instead of two.

“Library expansion” passed both tests. In fact, the preference on the goodness-of-fit test (31.82) was the most significant preference received for any question. The binomial test revealed that there was a significant preference *not* to convert because of “library expansion.” This finding is the only clear fact that can be shown from the section.

Five libraries gave other major reasons to convert: joining or pressure to join a consortium in which most of the members use LC, a change in administration, a desire to make the library similar to other academic libraries, and a change in focus in that library from being a community college to being a feeder college to the local university.

Table 9. When libraries considered converting to LC

Years	No. of Libraries
2000–2003	3
1990–1999	4
1980–1989	3
1970–1979	1
1960–1969	1
Don’t know	4
Never	15

Table 10. Reasons libraries would switch to LC

	More important		Less important		Not a reason		No response	
	No.	%	No.	%	No.	%	No.	%
16a. Faster cataloging	10	29	8	24	15	44	1	3
16b. Library expansion	1	3	6	18	26	76	1	3
16c. Improved technology for easier reclassification	6	18	10	29	17	50	1	3
16d. Budget increases	10	29	5	15	17	50	2	6
16e. Dewey limitations	5	15	12	35	15	44	2	6
16f. Admin. wants to convert	12	35	2	6	18	53	2	6
16g. Patrons’ requests	5	15	10	29	17	50	2	6

Table 11. Summary of statistical tests for reasons why libraries would switch to LC*

	χ^2 (2) significance of response set			Binomial I Is it a reason?		Binomial II Is it a major reason?		
	n	χ^2	p	z	p	n	z	p
16a.	33	2.36	No	0.52	No	18	×	×
16b.	33	31.82	0.001	-3.31	0.001	7	×	×
16c.	33	5.64	No	-0.17	No	16	×	×
16d.	32	6.81	No	-0.35	No	15	×	×
16e.	32	4.94	No	0.35	No	17	×	×
16f.	32	12.25	0.005	-0.71	No	14	×	×
16g.	32	6.81	No	-0.35	No	15	×	×

*Refer to Table 10 for the reasons.

“n” = number of respondents; “p” = maximum level of significance for which the preference holds. If the preference is not significant, “No” is entered. “×” = test not performed. The goodness-of-fit test has two degrees of freedom.

Question 17 addressed what materials would be considered for reclassification if DDC libraries could convert. Thirteen libraries indicated that all materials in their collection would be converted, as opposed to only 7 libraries that would reclassify circulating items alone. Libraries were then asked whether, if given the budget to reclassify their collections today, would they do so? A majority (23 libraries) stated they would not reclassify their collections even if they could afford it. Instead, these libraries would prefer to use their resources for collection development, which was the most common comment made. Only 9 libraries said they would reclassify given they had the resources. A binomial test reveals that there is a significant preference not to reclassify, $n = 32$, $z = -2.47$, $p < .05$.

Finally, the last section's questions focused on patrons' input on a library's classification scheme. Nineteen libraries indicated that their patrons have no preference for a classification system, while 14 indicated the patrons had a preference. Testing at the .05 level of significance, a binomial test reveals no significant result, $n = 33$, $z = -0.87$. The patrons' choice of classification was evenly divided. Seven libraries preferred DDC and 7 chose LC.

Libraries were also asked if the patron comments they received about their classification systems were positive, negative, or both. Four libraries' patrons had positive comments, 1 library's patrons had negative comments, and the other 7 were mixed. The survey did not ask what those comments were.

Question 21 considered which classification scheme, LC or DDC, their patrons were more familiar with. Five libraries reported that their patrons were more familiar with DDC. In 3 libraries, patrons were more familiar with LC, and in 6 libraries were familiar with both. Two libraries said their students were more familiar with DDC, while their faculty was more familiar with LC. Eight libraries claimed their patrons were more familiar with LC, while in only 5 libraries with DDC. Six libraries said their patrons were familiar with both.

The survey found more faculty (12 libraries) and librarians (8 libraries) than students (7 libraries) commented on their library's classification when asked in question 22. The finding that the faculty is more familiar than the students with LC is not surprising considering that the faculty probably have used LC in other academic libraries.

Question 23 addressed whether a library would consider the patrons' preference for a reclassification project. The findings were inconclusive because there were not enough responses.

The final survey question asked about the library's response when patrons inquire why their library continues to use DDC. Several libraries responded by saying that continuing with DDC was by choice because it met the needs of the library, with such reasons as "Dewey is sufficient for the size and type of our collection," "It's best suited for our patrons," "Its organization suits the sciences," and "We educate K-12 teachers and library media specialists at our institution and feel that they will be better prepared to serve in K-12 if they use Dewey through out their higher education experience." Another reason given by some of the libraries was patron familiarity.

For other libraries, the reasons given did not explain why they chose to use DDC, but rather why they were not converting to LC. These reasons included a lack of staffing, funding, and room to reclassify. One library also stated, "We cannot afford to have a split collection for a long period of time." Several libraries said that patrons never ask why they continue to use DDC, while one other said, "We do not have an official response."

Table 12. Relationship between size of library and various factors

Correlations with size of library and their:	r	n
Classifying of all materials in Dewey	-0.19	34
Accepting call number found on copy	0.06	33
Shortening call numbers	0.17	34
Using another edition to classify some topics	-0.06	34
Using optional numbers	0.02	31
Using specialized schedules	0.02	31
Having thought of switching to LC	-0.12	29
Spending money on reclassification	-0.14	32
Patrons expressing a classification preference	0.19	33
Patrons influencing classification scheme	0.08	16
Not converting due to lack of staff	0.15	33
Not converting due to lack of resources	0.15	33
Not converting due to reclassification cost	0.15	33
Not converting due to historical practice	-0.29	32
Not converting due to disliking split collections	0.14	33
Not converting due to not being a priority	-0.16	33
Not converting due to administration's preference	-0.17	32
Preferring Dewey's hierarchical structure	0.10	33
Preferring Dewey's close and broad classification	0.10	33
Preferring Dewey's flexibility	-0.35	32
Preferring Dewey's accommodation of new subjects	-0.25	32
Converting due to library expansion	-0.03	33
Converting due to administration's desire	0.20	32
Converting to get work done faster	0.16	33
Converting due to better technology	-0.10	33
Converting due to bigger budget	-0.10	33
Converting due to limitations of Dewey	-0.25	32
Converting due to patrons' requests	0.28	32

"n" = number of respondents. "r" = Pearson coefficient (degree of linear relationship between the two variables). $p < .05$, two tails. For all the above questions, the survey data was able to be collapsed into two choices (yes/no; a reason/not a reason; X was done/was not done). No test showed a significant relationship.

A final run of statistical tests was done with the point-biserial correlation test comparing the size of the libraries to all variables, which were, or could be reduced to, dichotomous variables. The size of the libraries was not significantly related to any variable (see table 12). This may have been because most of the libraries were small.

Conclusion

At a time when new technology and the Internet influence library trends, this study shows that a past library trend by DDC academic libraries to convert to LC has not completely run its course. From the small sample of 34 libraries responding, 10 considered reclassifying between 1980 and 2003. Of those 10 libraries, 3 had considered changing within the last three years. However, DDC academic libraries are not likely to revive the trend and switch to LC. This is primarily for two reasons: a lack of resources either financial or human, and the high cost of reclassification. For the majority of these libraries, even if they had the budget to reclassify they would not, instead preferring to use their resources for collection development.

Overall, libraries continue with DDC because they are satisfied with using it as their classification scheme. For a majority of the libraries, DDC is used as the primary scheme for monographs, serials, and nonprint and government documents materials, while only a few libraries use different schemes for some materials. Using the latest DDC edition is important to these libraries so they can stay current with schedule revisions. Staying up to date allows them the choice of reclassifying materials (if necessary) so that materials on the same subject stay together on the shelves. Another benefit is that DDC is not as difficult for paraprofessionals to learn as LC is. Either a professional or a paraprofessional can use DDC to assign call numbers, which allows for a technical services department to effectively manage its human resources as needed. In addition, these libraries like DDC's hierarchical structure and its flexibility to either finely subdivide materials on closely related subjects by assigning lengthy call numbers or to instead group them together by assigning short call numbers, as a library may prefer. DDC is also familiar to these libraries' patrons, even being used in some faculty's lessons.

Unfortunately, no significant conclusions could be made regarding whether patrons show an interest in the library's choice to use DDC rather than LC. The probable reason is that patrons are unaware of different classification systems until they are confronted with split collections or have actually done research in an LC library. This is probably why more faculty and librarians have commented on their library's choice of classification scheme than students. Undergraduate students would especially be less forthcom-

ing in their comments because they are familiar with DDC from their school libraries and they do not usually have opportunities to use LC libraries. Whether or not they can locate a book on the shelf is probably more important to many patrons than the classification used.

The study also was unable to determine if patrons' preference for a classification scheme influenced a library's decision to reclassify. However, the fact that 19 libraries indicated that their patrons have not commented on a preference for a classification scheme is worth noting. The lack of interest shown by the library patrons probably explains why libraries have not normally concerned themselves when their patrons do comment or have a preference for a classification scheme. For those DDC academic libraries that do respond to their patrons raising the issue of why they remain a DDC library, an educational campaign or Web page touting the history and benefits of DDC might be helpful to the library and its patrons. These DDC libraries are unique for the very fact that they remain with DDC; because of this, a follow-up study would determine if new factors, including patrons, might influence the decision to reclassify.

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Appendix Dewey Decimal Survey

1. What is the total number of titles in your library's collections? _____
2. How many titles are cataloged per year in your library/system? _____
3. Who assigns Dewey call numbers in your catalog department?:
 _____ Paraprofessionals. How many? _____
 _____ Catalogers. How many? _____
4. Does your library use Dewey classification for all types of material?
 _____ Yes. Please go to question 6.
 _____ No. Please answer the next question.
5. Please estimate the percentage of titles which your library classifies per year by type and classification system:
 Books : Dewey _____ LC _____ SUDOCS _____ Accession numbers _____
 Other (please specify) _____
 Serials: Dewey _____ LC _____ SUDOCS _____ Accession numbers _____
 Other (please specify) _____
 Gov. Docs. : Dewey _____ LC _____ SUDOCS _____ Accession numbers _____
 Other (please specify) _____
 Nonprint: Dewey _____ LC _____ SUDOCS _____ Accession numbers _____
 Other (please specify) _____
 Other (please specify) _____ : Dewey _____ LC _____ SUDOCS _____ Accession numbers _____ Other (please specify) _____
6. Do you accept Dewey call numbers when found on catalog copy?
 _____ Yes _____ No
7. Do you shorten a Dewey call number to a certain number of digits beyond the decimal?
 _____ Yes. How many digits? _____
 _____ No
8. Do you use the current edition of Dewey?
 _____ Yes, current full (DDC 21).
 _____ Yes, current abridged (Abridged 13)
 _____ No. Please specify edition _____
9. Do you use a different edition to classify some topics? _____ Yes _____ No
 If yes, please specify topics and editions used:
 Topic _____ Edition _____
 Topic _____ Edition _____
10. Do you use optional numbers (i.e., numbers in parentheses) for some topics?
 _____ Yes _____ No If yes, specify numbers: _____
11. Do you use specialized schedules to classify certain subjects? _____ Yes _____ No
 If yes, which schedules? _____
12. What other local classification practices do you use? _____
13. Please indicate the importance to your library of each reason below for continuing with Dewey:
 - a. Lack of resources for a major shift of the collections.
 _____ More important _____ Less important _____ Not a reason at all
 - b. Prohibitive cost of doing reclassification project.
 _____ More important _____ Less important _____ Not a reason at all
 - c. Lack of staff to handle reclassification.
 _____ More important. _____ Less important. _____ Not a reason at all.

d. Wish to avoid a split collection.

More important. Less important. Not a reason at all.

e. Changing classification is no longer considered a priority.

More important. Less important. Not a reason at all.

f. Historical practice of using Dewey.

More important. Less important. Not a reason at all.

g. Other (Please state reasons): _____

More important. Less important. Not a reason at all.

h. Administration wants to remain with Dewey.

More important. Less important. Not a reason at all.

14. Please indicate below the importance of the characteristic(s) about Dewey classification that your library considers in continuing to use Dewey:

a. Is hierarchical in structure, allowing for the development from the general to the specific in a logical order.

More important Less important Not a reason at all

b. Allows for close and broad classification.

More important Less important Not a reason at all

c. Is flexible in the selection of the classification number depending on what aspect of the subject is covered in a work since there is no one class for any given subject.

More important Less important Not a reason at all

d. Accommodates new subjects since it is based on a systematic outline of knowledge rather than literary warrant.

More important Less important Not a reason at all

e. Other (Please state reasons): _____

More important Less important Not a reason at all

15. Did your library considered converting to the LC classification?

Yes. Please indicate the time period when the discussions took place:

2000–2003

1995–1999

1990–1994

1980–1989

1970–1979

1960–1969

No

Don't know

16. Please indicate below the possible reasons your library might consider converting to LC in the future, and their relative importance.

a. Faster cataloging, with LC call numbers included on most OCLC records.

More important Less important Not a reason at all

b. Library expansion, with more stack space for separate shelving areas.

More important Less important Not a reason at all

c. Easier reclassification done with online catalogs / integrated systems.

More important Less important Not a reason at all

d. Budget increases, making large projects workable.

More important Less important Not a reason at all

e. Dewey classification changes and limitations.

More important. Less important. Not a reason at all.

f. Administration wants to convert.

More important Less important Not a reason at all

g. Patron requests/complaints.

More important Less important Not a reason at all

h. Other (specify reason(s)): _____

More important Less important Not a reason at all

17. What materials would your library reclass?

- Newer material only
 Newer material & all reference materials
 All of the collections
 Other (Please specify): _____

18. If your library could afford to reclassify its collections today, would you use those resources to reclassify?

- Yes
 No. If not, how would you use the resources? _____

19. Have your patrons communicated their preference for a classification system?

- Yes. What was their preference? LC Dewey
 No. Please go to question 24.

20. Please check all that describe your patrons' comments about your library's classification :

- Positive Negative Mixed Don't know

21. Based on patrons' comments or surveys, which of the following are they more familiar with?: Dewey LC Both
 Don't know

22. Which of the following groups of patrons make comments on your library's classification? Please check all that apply:

- Faculty Staff Librarians Students Administration

Please give examples of the comments you have received: _____

23. If you were thinking of changing to LC, would your library use patron input as a factor in making the decision ? Yes No

24. Please indicate below your library's response to patrons when asked why you continue to use Dewey: _____

Thank you very much for taking the time to answer these questions. If you would like to receive the collated results of this survey by e-mail, please give your preferred e-mail address here: _____

Book Reviews

Edward Swanson, Editor

The Internet Under the Hood: An Introduction to Network Technologies for Information Professionals. By Robert E. Molyneux. Westport, Conn.: Libraries Unlimited, 2003. 309p. \$40 paper (ISBN 1-59158-005-6).

Robert Molyneux has set himself the task of introducing the applications of networking technologies in such a manner as to be understood by information professionals whose levels of information systems expertise typically run somewhere from expert to the “dummies” for which the successful series of instructional manuals has been written. It’s a daunting assignment, but he’s handled it well.

The work is divided into four main sections: overview, technology, applications, and social issues. The overview section contains the basic groundwork information about networks, including a brief history of the development of the Internet. The technology section deals with the pure technology of networking, such as the Open Source Initiative (OSI) model, and contains four lab chapters that go into more technical detail than the chapters that they accompany as well as two case studies. The lab and case study chapters can be skipped by those readers not desiring the more comprehensive level of detail provided without hurting their general understanding of later chapters. The third section deals with applications that utilize networks and the configuration of computers to access and use a network. The last section of the book deals with social and legal issues, such as intellectual property concerns. None of the sections is comprehensive, but Molyneux provides a good introduction, with bibliographies for future reading.

Vocabulary and concepts are explained in reasonable detail throughout, and an excellent glossary is provided to assist in understanding the textual material. As with all works of this type, many paragraphs become so saturated with jargon that, while succinctly explained, they may become overwhelming and tedious to someone totally new to the subject. Molyneux provides much-needed help here, with numerous references to other works for the benefit of both those who crave a more basic approach and others searching for supplementary advanced information.

Although there is little in the way of especially new thoughts or unique insights contained in this work, such is not its purpose, and Molyneux has acted as a compiler of materials, combining information on aspects of his subject that are generally found in several different types of works into one book. This should prove especially useful to beginning information professionals or to information professionals who are either new to networking or who have managed somehow to avoid it but now find themselves no longer in a position to do so. The use made of numerous diagrams and illustrations will be helpful to the beginner in understanding the more complex concepts. All major network operating system environments are discussed briefly in separate chapters, with citations to additional sources so that readers can follow up in more detail those systems in which they are most interested.

Unlike many introductory works on networking, this one is clearly focused on the problems of information professionals; that is to say, it is intended neither for the electrical

engineer nor for the home user. This is both its main strength and at the same time a weakness in the work. It means that a great deal of technical information is intended to be provided in a relatively few pages, and unless the reader is truly motivated to learn about networking, the condensed nature of the discussion can present some difficulties. This book is therefore really best for readers who have some knowledge of at least the vocabulary of networking, but want to learn more, or those who have done some trial-and-error networking and now want to gain knowledge of the theory and concepts.

A nice touch is that Web addresses appearing in the book are indicated as being updated at www.molyneux.com. As additional resources come to the author’s attention, these are also intended to be made available from this Web site.—*Vicki L. Gregory (gregory@luna.cas.usf.edu), University of South Florida, Tampa*

The Kovacs Guide to Electronic Library Collection Development: Essential Core Subject Collections, Selection Criteria, and Guidelines. By Diane K. Kovacs and Kara L. Robinson. New York: Neal-Schuman, 2004. 251p. \$125 paper (ISBN 1-55570-483-2).

This book expands on Kovacs’s 2000 book, *Building Electronic Library Collections*.¹ It provides guidelines for collection development of an electronic library (or “e-library”), described by the authors as “a Web-published collection of Web-accessible information resources” (xv). By their definition, an e-library includes not only a collection of information

resources, both free and fee-based, but also access to virtual library services, such as the online catalog, reference services, and document delivery.

The authors' intent in writing this book was to provide a single resource for three major functions of electronic collection development policies. The first is a planning guide for collecting, evaluating, and selecting Web-accessible information resources. The second is an examination of issues related to collection management, including cost, access, and archiving as well as integration of electronic resources with the online catalog, library services, and other databases. The third is a collection development tool, providing practical tips for e-library collection evaluation, selection, and acquisition.

Each chapter includes one or more "E-Library Success Stories," which provide case studies of what the authors consider the best e-library implementations. These were selected to provide a mix of all library types and are described in a way that illustrates how each e-library implements the principles of collection development outlined in the book.

Part I, "Recommended Practices," begins with the basics by outlining general collection development principles for Web-accessible resources. A checklist of questions for Web resource collection development planning includes the purpose of the e-library collection, the subject areas and types of Web-accessible resources to be included, the intended user group, and how the resources will be organized. There is a well-annotated list of Web resource collection tools (both print and electronic).

The chapter on "Integrating the Library and the E-Library" explores areas not always included in overviews of electronic resource collection development: virtual reference and cataloging. The cataloging section provides a helpful overview of why libraries choose to catalog Internet resources and of descriptive catalog-

ing options. However, it implies that cataloging records for many resources are available through vendors such as OCLC. I think that the availability of cataloging records depends on the level of granularity of what is being cataloged. It has been my experience, for example, that cataloging records are fairly readily available for many Web sites, databases, and journals, but not as frequently for reports and other PDF documents. Nor does this section address available options for, and the pros and cons of, purchasing cataloging records for electronic journal packages from vendors other than OCLC—for example, the publisher or a service such as Serials Solutions.

The section on virtual reference is short (five-and-a-half pages) and, frankly, I wonder why it is included. This subject in general is addressed much more comprehensively elsewhere. The authors do not address what in my opinion are the key issues relevant to the topic of this book, such as the collection development of electronic resources. They discuss staffing and software for virtual reference but not the copyright and licensing issues involved in using electronic resources to provide reference service, especially to patrons who are not part of your organization. The last chapter in Part I is a very brief one on licensing basics.

Part II, "Recommended Evaluation Guidelines, Selection Criteria, and Core Collections for Major Subject Areas," focuses on nine broad subject areas: ready-reference; business; jobs and employment; medical; legal; biological sciences; physical sciences, engineering, computer sciences, and technology; social sciences and education; and using the Web for reader's advisory and collection development. This section is extensive, encompassing half the book.

Each chapter includes a section on developing the collection plan for information resources in that subject area; identifying, collecting, and selecting resources; evaluation guide-

lines; selection criteria; one or more "E-Library Success Stories"; a list of references and Web sites cited; an annotated core Web collection on the subject; and a list of Web sites to use as resource collection tools. The evaluation guidelines and selection criteria are not one size fits all—the evaluation guidelines for medical and legal collections include questions as to the importance of security and privacy in your environment—and some selection criteria are broader than others. The success stories are international in scope and include a variety of library types—academic, public, special, and even a school media center.

The book has a companion Web site that provides updates and revisions to the webliographies, bibliographies, and core resource lists for each subject area. Access information is given on the verso of the title page.

Part III, "Web Collection Development Resources," contains annotated lists of Web-accessible tools for librarians. These include collection development-related discussion lists, newsgroups, and blogs; evaluation guides; and multiple subject resource collection tools.

This book contains many excellent features, as well as some others that I question. I found it to be most effective when it focuses on developing collection development policies and plans. A collection development policy for an e-library addresses what purpose the collection will serve and the appropriate evaluation guidelines for that purpose. Selection criteria are derived from the answer to the question of purpose and are arrived at during the collection planning process. The e-library success stories do not merely describe Web sites and the resources they contain, they explain the collection development policies that led to the selection of those resources.

In my opinion, these principles of electronic collection development are far more valuable than the (admittedly well-chosen and well-annotated) lists of

core Web collections in various broad subject areas. As good as these lists are, similar lists are available elsewhere. While the book's goal is to provide a single source for all aspects of electronic library collection development, including core collections, I wonder if the lists of resources could have been made available on the companion Web site so that the text could focus on the policy aspects. It might have made the book more affordable as well as being perhaps a more appropriate venue for ever-changing resources.

I also found the authors' definition of an e-library to be both overly broad and somewhat restrictive. I have already stated that I did not find the section on virtual reference to be relevant. Although document delivery is included in the definition, it is not discussed in the book. The resources contained in an e-library seem to be primarily Web sites, databases, and journals. There is almost no mention of electronic books or PDF documents and reports.

On the whole, however, I find half of the book—the half that helps develop the policies and criteria for collection development of electronic resources—an excellent resource that fills a real need in this area. As one cannot purchase half a book, I would recommend its purchase, even at its outrageous price.—*Betty Landesman (landesb@mail.nih.gov), National Institutes of Health Library, Bethesda, Md.*

Reference

1. Diane Kovacs, *Building Electronic Library Collections: The Essential Guide to Selection Criteria and Core Subject Collections* (New York: Neal-Schuman, 2000).

Cataloging the Web: Metadata, AACR, and MARC 21. Ed. Wayne Jones, Judith R. Ahronheim, and Josephine Crawford. Lanham, Md.: Scarecrow, 2002. 199p. \$39.50 paper (ISBN0-8108-4143-6).

Cataloging the Web is an excellent collection of short papers addressing many issues relating to the cataloging of Web-based resources. These papers were originally presented at the Association for Library Collections & Technical Services Preconference on Metadata for Web Resources in July 2000, and this volume is an excellent substitute for those who were unable to attend the preconference.

The editors, Wayne Jones, Judith Ahronheim, and Josephine Crawford, organized the book into six sections. The first section is an introductory article by Jennifer Younger, "Metadata and Libraries: What's It All About?" Younger provides an overview of the current state of metadata in libraries by addressing the role of metadata in resource discovery and access, catalogs and gateways, and a scholars' portal as well as the role of metadata librarians, and partnerships between libraries.

The second section of the book, "Cataloging the Web: AACR and MARC 21," addresses how libraries are attempting to provide bibliographic access to Web documents through the traditional means of cataloging: the Anglo-American Cataloguing Rules (AACR2) and MARC 21. Brian Schottlaender provides a thoughtful overview of some recent reviews of AACR2, and summarizes some of the issues that Tom Delsey identified in *Logical Structure of the Anglo-American Cataloguing Rules* as needing to be addressed.¹ Matthew Beacom discusses the topic of how to catalog Web resources by presenting ten questions that should be considered, such as "What do I catalog?" and "One record or two?" Sheila Intner looks at alternative approaches to standard cataloging procedures to meet users' needs. She points out that users do not generally search for an entire electronic serial; rather, they are looking for information at the article level, and we need to take that into consideration when we are deciding how to provide access to electronic

resources. Jean Hiron recounts the changes to AACR2 with regard to serials cataloging, and reviews the definitions of such concepts as continuing and integrating resources. She follows that with a discussion of the changes' impact on library cataloging. Regina Reynolds discusses the International Standard Serial Number (ISSN) as a link to metadata, and the ISSN's relationship with other standard numbers, such as the Uniform Resource Name (URN) and the Serial Item and Contribution Identifier (SICI). In the last article in this section, Rebecca Guenther discusses MARC21, Dublin Core, and the development of metadata crosswalks.

The third section of the book, "Cataloging the Web: Other Approaches, Other Standards," looks at how libraries are using less traditional methods to provide access to Web resources. Norm Medeiros discusses the benefits of the OCLC Cooperative Online Resource Catalog (CORC) implementation at New York University's Ehrman Medical Library, including better selection of Web resources, increased efficiency, and the development of higher levels of expertise among those participating. Other papers in this section address the use of Text Encoding Initiative (TEI) headers, eXtensible Markup Language (XML), and Encoded Archival Description (EAD) to provide bibliographic access to Web resources.

In the fourth section of the book, "Tools for Cataloging the Web," two products for providing access to Web resources are discussed: MARCIt software, and the INFOMINE project. Laura Bayard describes how MARCIt software is used to select a Web resource and create a basic cataloging record using the metadata already inherent in the resource (such as the title) and allow editing of that information in a template. Juan Carlos Rodriguez discusses the development of INFOMINE, an online Web finding tool for public domain scholarly

resources (it currently includes almost 90,000). This is a useful discussion of a project that has resulted in a helpful resource for researchers.

The fifth section of the book, "Digital Libraries: Practical Applications of the Standards," turns to practical uses of metadata to provide access to Web materials. In a useful discussion Diane Boehr relates the development of the use of metadata at the National Library of Medicine, covering issues such as implementation strategies and Web resource selection criteria. Stanley Blum presents another aspect of the use of metadata in his discussion of how biological specimens are cataloged in museums. Brad Eden discusses a lesser-known metadata standard, the Instructional Management System (IMS). This article describes the development of IMS to support learning and compares it to other metadata standards. Wendy Treadwell discusses the development of a metadata standard to provide better access to data files, resources that are often neglected. Finally, Beth Picknally Camden describes the efforts by the University of Virginia to apply Dublin Core to digital video clips. These practical applications of metadata to projects at libraries and museums are useful resources to others who are contemplating digital projects of their own.

The concluding section is titled "Where Are We? Where Are We Going?" and includes articles by Michael Gorman and Clifford Lynch. Gorman discusses the wide variety of resources available on the Internet and reminds us that we have to be as selective with Web resources as we are with more traditional resources. He also points out that one should not forget the issues of preservation; it won't matter whether we catalog something if it disappears into oblivion. Lynch cautions against the idea that there is a platonic ideal of metadata. He maintains that we need to think about

metadata not just as being for description and classification, but we also need to think of how it is used for the retrieval of information and resources, and he explores that context throughout his discussion.

Overall, this book is an outstanding collection of articles presenting the state of the art of metadata in 2000, the year of the preconference where the papers were first presented. There is some slight overlap in content with *Electronic Cataloging: AACR2 and Metadata for Serials and Monographs*, which includes the proceedings of subsequent regional institutes that grew out of this preconference.² However, the volumes complement each other more than they overlap, as the presentations and resulting articles from the regional institutes were much lengthier and substantive than those at the preconference, and the speakers were fewer in number. While some of the information has changed in the subsequent years, and some of the articles are outdated, it is a useful resource for any cataloging librarian who wants to keep up with developments in the field.—*Rebecca L. Mugridge (rlm31@psu.edu), Pennsylvania State University, University Park*

References

1. Tom Delsey, *The Logical Structure of the Anglo-American Cataloguing Rules*. Accessed Jan. 8, 2005, www.collectionscanada.ca/jsc/docs.html.
2. Sheila S. Intner, Sally C. Tseng, and Mary Lynette Larsgaard, eds. *Electronic Cataloging: AACR2 and Metadata for Serials and Monographs* (New York: Haworth, 2003).

Information Architecture: Designing Information Environments for Purpose. Eds. Alan Gilchrist and Barry Mahon. New York: Neal-Schuman, 2004. 266p. \$75 Hardcover (ISBN 1-55570-493-X).

This volume covers four broad areas—design environment, software environments, managing metadata (including taxonomies and controlled

vocabularies), and user interface—in seventeen chapters, five of which are case studies. Each chapter is written by a different expert in the field, following introductory material by the editors. The editors do a fine job of placing the four sections into context, not just in library and information science but also within database architecture, Web history, and other appropriate contexts. This allows the reader to see the bigger picture when it might be easy to become mired in the detail of a case study. The book has an academic approach, clearly aimed for an educated audience.

While there is a library science bent, some of the authors speak to practitioners in other disciplines, such as Web managers and database engineers. Audiences for this work, according to chapter emphasis, seem to be: system designers (information modelers) (Part 1), software purchasers (Part 2), metadata appliers (Part 3.1), taxonomists (Part 3.2), and usability testers (Part 4).

Peter Morley's foreword starts the book off with a brief, and admittedly personal, history of information architecture. I found this quite useful and rather disarming. It softens the academia inherent in the topics and shows the field to be young, still forming, and variously defined.

The chapters present several aspects, aimed at both government entities and corporate sites: case studies; practical information and approaches; demystification; definitions; methodologies; standards; and legalities. In addition, the book has a global perspective, although centered on Europe (the United Kingdom in particular).

The order of the parts and chapters within them roughly follow the chronology of information architecture development. For example, if the information architect is starting from scratch, an information model is a good beginning point. Following that is an emphasis on the business

case, software choice, and so on. The final section is on usability, which makes sense since such testing could be done after the modeling and creation of a site's information architecture. Nonetheless, the editors explain the reader is not expected to be read the book in order, but rather each section as needed.

On behalf of the professional indexing community, I am a little embarrassed about the index to this book, created by Indexing Specialists (UK) Ltd. While it is usable, it has lacks: not enough see also references (none, actually), some scattering of terms (an entry for "distributed citizen's information systems" but no connection to the single locator for "information systems"), and odd choices for some entry terms. Having indexed books at the tail end of the publishing cycle, I know how hard it is to get the final editing done. Still, it would have improved the user experience (which is what Part 4 is all about) to have an index with a more cohesive structure and greater integrity.

There is no overall bibliography, as the editors felt anything they listed would no longer be useful by the time of publication. I find this explanation specious; using that reasoning, would this book be useful by the time of publication? However, several of the chapter contributors have included bibliographical references so the reader has somewhere to go after digesting the material.

The chapters themselves are packed with methodologies and practical approaches to the individual issues they aim to elucidate. Information modeling is an underutilized initiation of Web site architecture, and the writers on this topic provide well-documented definitions and visualizations of the process. Following the advice in these chapters will go a long way to assuring a successful build-out of the information architecture.

The chapters on software are interesting in that they don't (can't,

really) talk much about actual software. It changes too quickly, and individual site needs vary too greatly. The authors provide instead a way of looking at software needs and assessing available solutions. It is gratifying to see the business case brought up in this section—again, an underused approach to not only architecting a site, but re-architecting it in response to change. The chapter on software vendors makes an important point, at least from a government Web site perspective, about the need to access isolated silos of information in a usable way. (Perhaps "silos" is a Midwestern term; the author calls them "stovepipes.") This chapter borders on project management, which is not otherwise addressed in the book.

Part 3 is titled "Managing Metadata," but runs the gamut from interoperability to XML to topic maps to taxonomies, taking side trips to define related such terms as controlled vocabularies, thesauri, even ontologies. Chapter 9 makes an important point that could be the rallying cry for this entire section, "Standards are the key" (148). This section doesn't have the cohesiveness of the other parts of the book, but it certainly displays valuable understanding of the issues.

The final section, on user interface, discusses some aspects of usability testing. It is a rather brief introduction to a topic that could truly run throughout the information architecture process. Of the three chapters in this section, the second is a rather fey interview and the third a case study. I would like to have seen a concluding chapter that summarizes and brings together the many threads presented in the book.

Information Architecture provides a needed approach to the many topic areas encompassed by this new discipline. That it was written by practicing experts in the field makes it especially worthwhile. The editors and authors have given us a lot to digest in a way that is useful, manageable, and applicable.—*Eileen Quam (eileen.*

quam@state.mn.us), Minnesota Office of Technology

Managing Preservation for Libraries and Archives. Ed. John Feather. Burlington, Vt.: Ashgate Pub., 2004. 189p. \$79.95 Hardcover (ISBN 0-7546-0705-4).

This book consists of eight essays written by an international group of contributors and covers major current preservation management issues. As stated by John Feather in the preface, the topics range from state-of-the-art developments in the field to well-proven methods of preserving traditional library materials. That said, a full three chapters are dedicated to digital preservation, understandably giving this newer and rapidly changing area more consideration than other subjects. As books about library preservation tend to be published few and far between, this volume is a welcome addition to the available literature.

Feather opens the book with an introductory chapter, laying a foundation for the rest of the book by providing an overview of the underlying ideals of preservation, giving the reader some background of the field, and then moving on to creating preservation policies. He discusses the philosophy of preserving cultural and documentary heritage and writes that preservation is the means by which documentary heritage is passed on to future generations. He explains the often-conflicting principles of artifactual value versus intellectual content and the search for balance between current and future use. He touches on differing levels of preservation commitment and the issues surrounding selection for preservation. Feather then covers some obstacles to preservation and discusses principles of preservation policies for libraries and archives.

The second chapter is the first that focuses on various aspects of digital preservation. Colin Webb gives a straightforward overview of the challenges involved in digital preservation.

He begins with a relatively simple definition of digital information and then proceeds to a discussion of how digital information affects libraries and archives. Webb identifies threats to digital information and explains the need for proactive preservation, listing the two fundamental tasks of digital preservation as keeping the information safe and keeping the information accessible. He states that we must decide on the significant properties of digital information that are to be preserved. Next follows a discussion of the numerous challenges to digital preservation and some responses to those challenges. At the end of the chapter, Webb lists some useful resources for finding additional information.

Following this introduction to digital preservation, Majilis Bremer-Laamanen and Jani Stenvall delve into the specifics of selection for digital preservation. The authors take a national point of view in this chapter, focusing on how cultural institutions can collaborate to preserve digital cultural heritage. They state the goal should be to combine digital efforts into systematic programs, which will require cooperation on national and international levels. They write that digital preservation selection decisions can begin by following guidelines developed for the rest of the collection and suggest some important further considerations for digital selection criteria. Bremer-Laamanen and Stenvall also discuss implementation on national and international levels, including developing a coordinated effort among heritage institutions. They assert that improvements in technical infrastructure and funding are essential to meet the goal of national and international systematic programs.

The topic of Adrienne Muir's essay is long-term management of digital information, a broad subject covered nicely in the fourth chapter. Muir begins by emphasizing the need for ongoing intervention to keep digi-

tal objects accessible and usable over time. She discusses the issue of access versus ownership and copyright as well as the resulting questions of who is responsible for preserving digital material and how to proceed, given the confines of copyright laws. She also examines the problem of discovery and acquisition of material and the role legal deposit agreements can play in ensuring material is not lost. Muir looks at the challenge of maintaining both authenticity and integrity over time and explains why preservation decisions must be made at the time of selection of digital material. She discusses the Open Archival Information System (OAIS) model and its preservation planning component. Muir concludes that metadata is the key to long-term management of digital objects.

The next chapter returns to the more traditional topic of preserving paper. René Teygeler discusses recent advances in methods and technology, giving conservators and preservation librarians a review of the last several years. He begins with the switch in the early 1990s from preserving individual artifacts to large-scale national and international preservation activities due to the acidic paper crisis. He recounts recent studies of paper decay and resulting advances, analyzes the progress in the search for non-destructive paper testing, and provides an update on studies of artificial and natural paper aging. He also reviews the improvements in the quality of paper used by publishers, writes about studies in ink corrosion and paper discolorations, and describes recent findings on the effects of air pollutants on paper. Finally Teygeler discusses various treatments for pest control, ink corrosion, and advances in laser cleaning and paper splitting before moving on to storage conditions, including climate, lighting, and storage materials.

Dietrich Schuller provides a useful examination of the full range of sound recordings and methods of pre-

serving them. He begins by explaining why sound recordings, even more so than other audiovisual media, are inherently more vulnerable to damage and corruption. Schuller examines the susceptibility of a number of media to material degradation and then gives recommendations for storage and handling of the same media. He includes cylinders, coarse groove discs (shellacs), instantaneous discs, vinyl records, magnetic tape, and optical discs. Schuller also discusses hardware obsolescence and preservation strategies, such as multiple copies and migration. He ends the essay with a discussion of Digital Mass Storage Systems and how they will affect the preservation of sound recordings.

Next, Graham Matthews categorizes and lists a wide variety of preservation resources relevant to the topic of preservation management, a practical addition to the book. He begins by listing more general sources categorized into textbooks, bibliographies, periodicals, and Web sites. He then covers more specific sources that include the topics of collections care, audiovisual materials, surrogacy and substitution, digital materials, disaster management, security, preservation needs assessment, preservation policy, research, and education and training. Matthews includes commentary that places the resources in context. The chapter is an in-depth and valuable bibliography of preservation literature.

The final chapter is an insightful look into the future of preservation. Marie-Thérèse Varlamoff briefly reviews the history of preservation and the current state of the field in different parts of the world. She predicts that in the future the preservation world will become more flexible as new technologies emerge, cooperation will become essential to the success of preservation, and that sharing responsibilities, equipment, and storage facilities will become more common. She writes that private funding will become more important

for public institutions. Varlamoff also looks at what we will preserve in the future, how we will preserve those materials, and who will preserve them and where.

Overall, this book is useful to both veterans of preservation and those new to the field. The essays included strike a good balance between theory and practice. Readers with some prior knowledge will benefit more from a couple of the chapters, including Teygeler's essay about paper preservation, which has a more technical tone to it than most of the essays. Other chapters, such as that by Schuller on sound recordings, are straightforward enough to require no prior knowledge. The collection gives a good overview of the issues facing preservation today and where the field is headed.—*Mary Ellen Starmer* (*starmere@utk.edu*), *University of Tennessee, Knoxville*

Education for Cataloging and the Organization of Information: Pitfalls and the Pendulum. Ed. by Janet Swan Hill. Binghamton, N.Y.: Haworth, 2002. 398p. \$79.95 cloth (ISBN 0-7890-2028-9); \$49.95 paper (ISBN 0-7890-2029-7). Published simultaneously as *Cataloging & Classification Quarterly* 34, nos. 1/2 and 3.

This is the third special issue of *Cataloging & Classification Quarterly* (CCQ) devoted to cataloging and technical services education, the previous two having appeared in 1986 and 1993.¹ Chronologically between them can be found two other collections of essays on training and education for cataloging, both published by Greenwood Press and edited by the present volume's editor and one of its contributors.²

Time for an update, it would appear, especially since closer examination reveals that only the 1986 CCQ special issue can be said to claim the same topical scope as the present volume. The 1993 collection covers

all areas of technical services with no unusual emphasis on cataloging, while the books from Greenwood focus at least as much on recruiting and training as on graduate-level education. Even the 1986 collection concerns itself much more with on-the-job training than the present volume. Consequently there is an intensity of focus that, combined with a size twice that of the 1986 collection, allows a wide-ranging and in-depth look at the issues facing cataloging education.

Education for Cataloging and the Organization of Information is helpfully organized under four rubrics: "A Matter of Opinion," "The Context," "Education for Specific Purposes," and "Alternatives for Instructional Delivery." "A Matter of Opinion" encompasses four essays that consider cataloging as a discipline, its continuing importance within librarianship, and the perceptions of it that affect education and recruitment. The authors—Michael Gorman, Sheila Intner, Heidi Lee Hoerman, and Robert P. Holley—are among the best-known writers and thinkers in the field, and they do not disappoint. Gorman, in his distinctive polemical style, identifies penny-pinching administrators and artificial-intelligence visionaries as the chief enemies of cataloging while stoutly asserting its central place in librarianship. Hoerman, by contrast, exposes the gulf between how catalogers view their work and how library users and other librarians see it. Intner and Holley focus on education, with Intner analyzing three particularly contentious issues in cataloging education and Holley offering suggestions for making the teaching of cataloging more engaging to the student. This is the shortest of the book's four sections, yet for many readers it will constitute the meat of the volume, even if the arguments and suggestions presented are largely familiar; such changing circumstances over the past decade as the rise of networked electronic resources and

the near-disappearance of cataloging course requirements in master's programs have forced the reconsideration and evolution of old disputes.

The next section, "The Context," examines the present environment of education for bibliographic control. Contributions include a brief presentation of Association of Research Libraries data showing a long-term decline in professional staffing for cataloging, along with reports of two surveys suggesting that both library educators and library-school graduates tend to believe that cataloging skills are important for all practicing librarians. These provide valuable information, but of greater interest are "A New Look at US Graduate Courses in Bibliographic Control," a comprehensive survey of curricula and analysis of relevant research literature by Daniel Joudrey, and Jerry Saye's analysis of the decline of the place of cataloging in library education. Joudrey's thorough and wide-ranging study notes a decline in traditional cataloging courses and requirements since the 1980s but a concomitant growth in information-organization and cataloging-of-non-book-formats courses, and finds a surprising stability of the place of bibliographic control in the curriculum, given the pressures of the operating environment: "Despite the beliefs of many library administrators and LIS educators, the reports of the death of cataloging are greatly exaggerated" (90). Saye takes a longer time perspective and sounds a more pessimistic note: "There can be no doubt that the perception of cataloging as an essential knowledge requirement for graduates of our master's programs has taken a serious decline" (132). He examines the forces pushing for de-emphasis and concludes that libraries will need to take much more responsibility for teaching librarians about bibliographic control.

The two remaining sections offer an assortment of essays and reports

on specific concerns. The somewhat misleadingly titled "Education for Specific Purposes" section provides treatments of education for subject cataloging, authority control, and electronic resources metadata, but also a guide to practical job skills for catalogers and a discussion of using format integration as an organizing principle in teaching cataloging; this last item, with its focus on curricular design, would have fit at least as well in the final section, "Alternatives for Instructional Delivery." "Alternatives," as it happens, is the most variegated and least weighty section of the book, spotlighting an array of contexts and approaches, including online mentoring, distance education, regional institutes, metadata training for non-catalogers, and electronic discussion lists. It also presents a review by Gertrude Koh of instructional innovations in the library-school setting, followed by two descriptions of her Internet-based use of working catalogers as mentors for her own students at Dominican University—the first by herself, the second by several of her students.

The range of this volume is impressive; philosophical and historical discussions are well-represented, as are practical advice and concrete examples. The contributions are, for the most part, well-organized and artfully arranged. The first half of the book effectively updates earlier discussions of the state of cataloging education, while the second half breaks new ground by offering a well-rounded review of specific aspects

Reviewers

I would like to recognize and say a special "Thank you!" to the following who have provided book reviews for the July 2003 through December 2004 issues of *Library Resources & Technical Services*. Others who are interested in preparing reviews are invited to get in touch with me at <eswanson@qwest.net> or <swans152@tc.umn.edu>.—Edward Swanson, *Book Review Editor*

Robert Alan, Pennsylvania State University; Tamika Barnes, North Carolina State University; Julia C. Blixrud, Association of Research Libraries; Mou Chakraborty, Nova Southeastern University; Christine L. Ferguson, Mississippi State University; Betsy Friesen, University of Minnesota; Margaret Kaus, University of Tennessee; Betty Landesman, National Institutes of Health Library; Patrick Le Boeuf, Bibliothèque nationale de France; John Leslie, University of Mississippi; Shirley Linicum, Western Oregon University; Bernadette Lopez-Fitzsimmons, Manhattan College; Rice Majors, Lewis and Clark College; Steve McCann, North Carolina State University; I. C. McIlwaine, University College London; John McIlwaine, University College London; David Miller, Curry College; Rebecca L. Mugridge, Pennsylvania State University; Kerry Peterson, North Carolina State University; Eileen Quam, Minnesota Dept. of Administration, Office of Technology; David Reser, Library of Congress; William J. Wheeler, North Carolina State University; Gregory Wool, Iowa State University

of the topic. In short, *Education for Cataloging and the Organization of Information* has much to offer anyone interested in either the present state of cataloging education or the future of cataloging.—Gregory J. Wool (gwool@iastate.edu), Iowa State University, Ames

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