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A Year of Cataloging Research

Randy Roeder

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Library Resources and Technical Services is celebrating 2010 as the Year of Cataloging Research by publishing guest editorials and highlighting papers that advance this important initiative.

Evidence-based cataloging. The phrase has been popping up frequently since the 2008 release of On the Record: Report of the Library of Congress Working Group on the Future of Bibliographic Control. While the historical record would indicate an unbroken string of cataloging research and publication going back at least a century, a general dissatisfaction with our efforts to date is palpable, and former apologists are increasingly becoming catalogers’ most vociferous critics. In the middle of what increasingly feels like a tug-of-war stands the practitioner observing that for every librarian ready to add to a tradition built on the likes of Charles A. Cutter and Seymour Lubetzky, there is another looking at the same corpus reiterating Gertrude Stein’s classic observation that “there’s no there there.” Clearly, a fundamental reappraisal of the importance of the bibliographic work traditionally done by catalogers is taking place.

While the outcome of that reevaluation is anything but clear, the result is certain to be less than ideal if the emerging consensus is one based on anecdote or built on inquiry into what has become a rapidly disappearing environment. The authors of On the Record are unambiguous in their description of a field where research has lagged behind events and where the knowledge base provides woefully inadequate support for making decisions certain to have a profound effect on the future of libraries and the profession. Given the situation, it comes as no surprise that the Working Group’s use of the word “evidence” has become a de facto rallying cry for those seeking to revitalize research in information-seeking behavior and the value of bibliographic metadata.

Keenly aware of the state of affairs and inspired by the Library of Congress report, members of the American Association for Library Collections and Technical Services (ALCTS) Implementation Task Group on the LCWGR (Library of Congress Working Group Report) are working to promote 2010 as the Year of Cataloging Research. The effort is in the organizational stage, and the list of tasks to be accomplished is long—working with the ALCTS Programming Committee, trying to get American Library Association buy-in; promoting the idea in such venues as the American Society for Information Science and Technology, the International Federation of Library Associations and Institutions, and the International Society for Knowledge Organization; writing editorials; and creating buzz in general. A significant measure of the initiative’s success, however, will lie in the degree to which the Implementation
Task Group is able to secure the involvement and support of those outside the cataloging community. The geometrically expanding network, with its proliferation of communication options, all but guarantees that much of the research that determines the future of bibliographic control will take place outside the library and that the reporting of it will take place outside traditional venues.

There is no guarantee that library catalogers and metadata specialists will play a significant role in shaping the future of bibliographic control. Although well positioned for the task by an understanding of bibliographic description, relationships between entities, and subject analysis, librarians are not in control of the research agenda, and seats at the table are unlikely to be awarded on the basis of job description. Much of our cataloging research, although useful, is focused on a delivery environment (the local catalog) and an information unit (the bibliographic record) that are likely to disappear in the near future. Too many catalogers still get a blank look on their faces when terms like Semantic Web or cloud computing turn up in conversation. This disconnect does not bode well for the widespread participation of traditional catalogers in the developing discussion—an omission that represents a loss for all as a deep and profound understanding of conventional publications and their complex relationships is unlikely be part of the conversation.

Individuals who are comfortable with the evolving information environment and use evidence-based arguments to support their views are likely to find that they have a voice in the development of the new bibliographic order. Those who can add to these characteristics the additional ability to collaborate with leaders from other information cultures will find they have real influence. An initiative like the Year of Cataloging Research presents an opportunity to insert savvy and talented library leaders into the larger discussion; it also can serve as a vehicle for assessing the current state of cataloging research relative to that of other groups.

Accepting the premise that the quality of our investigations is somehow wanting does not necessarily imply that cataloging researchers are doing shoddy work or that they are plowing already-plowed ground. The problem is more likely one of library and cataloger insularity. If the usefulness of library research is dependent on the quality of the questions being asked, it could be that we are asking the wrong questions. Perhaps there is no need for another study of the way in which undergraduates approach the local catalog if the importance of that catalog is diminishing over time. Then, too, how important is it to continue to study the use of our bibliographic data within the framework of the MARC record when MARC is a legacy format and the long-term existence of the unified bibliographic record is doubtful? There may indeed be good reasons for doing this sort of research, but increasingly such efforts need to be viewed through the prism of an environment where machine-actionable, linked data will become the norm and the primary engines for discovery will reside on the network.

It would be nothing short of astonishing if the results of a renewed commitment to research were to somehow bolster the case for a continuation of traditional cataloging practices. Thirty years of library experience—including twenty in my current role as a cataloger—have convinced me that our current practices for providing access to information resources are neither sustainable nor in the profession’s best interest. Semantic data is the future, and what we think of as the bibliographic record is destined to become little more than a collection of links. As researchers explore this new environment, I would not be surprised to learn that much of our thinking about access to information objects is fundamentally sound, but that the infrastructure we have created to support that access will need to be jettisoned.

The visionaries working to make library cataloging data a part of the Semantic Web have a gut-level understanding of the importance of their work. Most practitioners and managers—groups that produce much of our research—do not. The divide does not serve us well. Librarians working with semantic data are increasingly reluctant to publish for an audience that “doesn’t get it,” and researchers who do not understand the emerging environment are running the risk of creating a product that is increasingly irrelevant. The situation bodes ill for creating a body of evidence that will ensure us a place in the evolving digital environment.

A Year of Cataloging Research—let’s hope we have the courage to ask the right questions.

Reference

Name Authority Work Today

A Comparison of Types of Academic Libraries

By Susan K. Burke and Jay Shorten

This study compared different types and sizes of academic libraries on how they currently engage in name authority work. Findings were that smaller libraries were more likely to do their cataloging in-house and less likely to purchase vendor services. Large libraries and libraries at graduate institutions were more likely to engage in some outsourcing and were more likely to do name authority control for a variety of types of names and materials. The study documents name authority control practices before the implementation of the anticipated new cataloging rules. The results provide comparative data that could be useful for making decisions concerning, for example, allocating staff positions or budgets.

While the concept of name authority work is rooted deeply in the history of library cataloging, the form that it takes in today's library environment is very much a product of technological developments. Name authority practice changed significantly during the past three decades because of technological advances making cooperative name authority feasible, proliferation of vendor services for name authority, and changing cataloging rules. Through these and other changes, name authority has gone from a predominately in-house activity to a cooperative national and international endeavor. Historically, new cataloging rules introduced in 1978, Anglo-American Cataloging Rules, 2nd ed. (AACR2), significantly changed the creation of name headings, necessitating labor-intensive solutions.1 Now cataloging is poised on the brink of a new set of cataloging rules, Resource Description and Access (RDA), and name authority practice likely will face new challenges in the near future.

This study compared name authority processes of different types of academic libraries to ascertain differences and similarities in name authority practice. Dividing academic libraries by type of institution (graduate, four-year schools, and two-year schools) and collection size, the study examined three aspects of name authority control: what name authority work is being done, how name authority processes are conducted at different libraries, and who does the authority work.

Background

Name authority control is one of the theoretical foundations of the organization of information and relies on the intellectual work of catalogers to link variations of an author's name under one heading so that a searcher can be reasonably certain that, if the name they seek exists in the catalog, they can find it and that all works by a given author are traceable under a single heading.2 Both Jeng and
Tillett made the point that this practice enhances the recall and precision of name searching in the library catalog.\(^3\) The justification for name authority control is that patrons, who may be less skilled in finding names, will not find the correct entry if information professionals do not supply the links between different forms of names. In 1985, Burger defined authority work in computerized catalogs as creating authority records, gathering these records into a file, linking authority records to bibliographic records, maintaining authority files and systems, and evaluating the results.\(^4\) He stated that the role of authority control is to facilitate access and that it aids in both the finding function and the gathering function of the library catalog.

Bangalore and Prabha found that in practice, libraries may opt for full authority control of all potential access points, moderate control of only headings with cross-references, or minimal control of only frequently used cross-references, and that deciding on the level of authority control is based on several factors, including collection size, patron body, and funding.\(^5\) Some libraries centralize authority control in one unit or with an individual while others decentralize the process. Bangalore and Prabha found that “library approaches to authority control vary widely.”\(^6\) Zhang noted that while authority work is routine for large research libraries, it has been more challenging for small and medium-size academic libraries.\(^7\) She went on to state that even in large research libraries the levels of control vary.

In the mid-1970s, changes in the ways that libraries performed name authority began to accelerate. The Library of Congress Name Authority File became the National Name Authority File (NAF) with the creation of Name Authority Cooperative Program (NACO) of the Program for Cooperative Cataloging (PCC) in 1976. In 1977, the Library of Congress (LC) started keeping a computerized LC/NAF, which it made available to other libraries in quarterly microfiche beginning in 1979. The LC/NAF then became available in machine-readable format through OCLC in December 1980.\(^8\) This was an important development for library online cooperative union catalogs, which existed in part as venues for libraries to share cataloging records. As libraries made the transition from card catalogs to computerized catalogs, and as those catalogs became linked to the online union catalogs, consistency in heading formation became essential for maximized search and retrieval.\(^9\) According to Taylor, vendors became involved and began offering various name authority control services around 1983.\(^10\)

The new cataloging rules, RDA, soon will usher in changes to cataloging. The last major cataloging rule change had sweeping effects on cataloging policies and practices, including name authority. Notably, after the implementation of AACR2, catalogers were concerned that their name authority files that existed prior to AACR2 would no longer be in compliance with national rules, and they struggled with solutions. Some libraries chose to avoid the conflict and closed their card catalogs in favor of switching to online catalogs.\(^11\) Tracing family names is a new direction in which RDA is expected to move.\(^12\) Families as a form of collective author have been used in certain information institutions such as archives, but not in libraries under the AACR2 rules. Although AACR2 did not cover family names, MARC21 has had an option to accommodate family names with an indicator of “3” in the name fields.\(^13\)

Several potential future directions for developments in name authority control are being explored. The Virtual International Authority File, for example, is a joint project between the national libraries of Germany and France, the LC, and OCLC to “match and link the authority records for personal names in the retrospective personal name authority files of the Deutsche Nationalbibliothek (dnb), the Library of Congress (LC), and the Bibliothèque nationale de France (BnF).”\(^14\) Another potential direction for name authority concerns international name authority control. In recent years, catalogers have been addressing the question of international authority and discussing the ramifications of different means of authority control. The International Federation of Library Associations and Institutions (IFLA) proposal of an ISBN–type number for authors, the International Standard Authority Data Number (ISADN), to replace name authority control was initially introduced in 1980, and recently the idea has been gaining momentum. IFLA has a working group charged with defining the functional requirements of authority records, studying the feasibility of the ISADN, and serving as a liaison to other groups concerned with authority files.\(^15\) Recently, Functional Requirements for Authority Data: A Conceptional Model, edited by Patton, was published after being approved by the Standing Committees of the IFLA Cataloguing Section and the IFLA Classification Section.\(^16\)

Concern over the cost of authority control, reflected in hours of cataloger time, is frequently discussed but is not a new issue. The following study question from a 1936 cataloging course syllabus from Columbia University School of Library Service illustrates this: “Catalogers are sometimes criticized because of the time and energy they spend in ferreting out the names of authors who wish to conceal their identity. What can you say in answer to this criticism?”\(^17\) In a 1953 reference to name authority, Tauber criticized the practice: “The cost of this research has increased considerably the cost of original cataloging, often needlessly and with no definitely beneficial results. The value of the information obtained, and its use by the public, has long been questioned in relation to the cost.”\(^18\) Bangalore and Prabha recorded the amount of time spent on each aspect of cataloging for seventy-five monographs. Name and series authority accounted for, on average, one-quarter of total cataloging time. In the most extreme example among the observed cases, the name/
series authority work, took 87 percent of the total cataloging time for a Ukrainian language book, and in several examples the authority work took approximately 50 percent of the cataloging time.\textsuperscript{18} Sullivan estimated that subject, name, and series authority work at Yale Law Library took one-third of the time to catalog a book.\textsuperscript{20} Authority work entails more than checking authorities when cataloging an item. Even more time-consuming is the database maintenance task of continually comparing the in-house authority file to the long list of updated headings issued weekly by the LC.\textsuperscript{21} Calhoun and Oskins stated, “It is safe to assert that if it is not kept up to date in some manner, inaccurate and conflicting headings will accumulate rather rapidly in a local system file, even one which has been cleaned up and brought into conformance with the LCNAF and SAF before being loaded.”\textsuperscript{22} Database maintenance is at the heart of the correct functioning of authority control. To control internal costs, in the late 1980s many libraries turned to vendors for a one-time cleaning of the automated authority file or ongoing authority file maintenance, or both. Such vendor services are expensive, and many studies have explored both the accuracy and the cost-effectiveness of going with vendor services.\textsuperscript{23}

To examine whether the costs involved in name authority control are justified, many researchers have analyzed whether name authority control actually improves the search results received by patrons in a computerized library catalog. An early study by Taylor in 1984 and a 1995 study by Bangalore both examined user transaction logs concerning name searches in OPACs to determine the usefulness of name authority control.\textsuperscript{24} Both authors found most failed name searches in OPACs would not be helped by name authority control. Bangalore stated that she believed that online linkage of authority records to bibliographic files is expensive, but justifiable.\textsuperscript{25} She added, “Many authority records have no cross references, and many of the records with cross references are not the forms sought by users.”\textsuperscript{26} Both she and Taylor suggested that computer programming changes could boost name search matches such as inverting name searches automatically, imbedded spell-check, “order, spacing and punctuation inaccuracies, and common keyboarding errors.”\textsuperscript{27}

In another study criticizing authority control, Jeng argued that authority control does not serve the needs of end-users as well as better search interfaces could and concluded that it is not a good use of time and resources.\textsuperscript{28} Using another approach to evaluating authority work, Pappas examined error rates and found in an analysis of eight RLIN members’ authority-controlled access points that 16 percent of personal name fields in MARC contained authority errors.\textsuperscript{29} This represented one-quarter of all errors found in the 1,710 authority controlled headings in four hundred records analyzed. More recently the trend of advocating against authority control may be reversing. In 2004, Byrum stated that there was a “generally skeptical attitude about the cost-effectiveness of name authority work that prevailed in the 1970s and into the 1980s,” but that there is increased recognition by administrators of the value of authority control.\textsuperscript{30}

The final issue examined here is not one of name authority control per se, but of cataloging practice in general. Are libraries losing cataloging and other technical services positions? If so, how are they accommodating these changes? Wells collected data from seventy public graduate university libraries in the Southeast and found that 63 percent reported having lost technical services positions since 1990.\textsuperscript{31} Of those that had lost positions, three-quarters reported that the lost positions were librarian positions. Cataloging backlogs, cataloging new materials, and authority control were identified as the job tasks most strongly affected by the loss of positions.

Within cataloging, what types of employees are doing name authority work? Wolverton found that 94 percent of the doctoral institutions he studied stated authority work was done by Masters of Library and Information Science (MLIS) librarians, and 78 percent also had paraprofessional staff involvement.\textsuperscript{32} Wells reported that respondents, half of whom were from public libraries, in her study indicated that 80 percent of the authority work was done by MLIS librarians and 42 percent by paraprofessionals.\textsuperscript{33} Bordeianu and Seiser surveyed libraries of the Association of Research Libraries in 1999 and found that 84.5 percent used para professionals for copy cataloging and 67 percent used paraprofessionals for original cataloging.\textsuperscript{34} They state that “several studies performed during the past 2 decades have indicated that paraprofessional participation in cataloging has been increasing steadily since 1977.”\textsuperscript{35}

**Research Problem**

In theory, authority control is central to the ideals of information organization. Several authors have observed that, in practice, it is expensive and time-consuming in an era of stagnant library budgets and the loss of technical services personnel, and it is largely invisible to patrons.\textsuperscript{36} In addition, studies such as those by Taylor and Bangalore found that authority control would only have a minimal effect on improving hits from patron searches.\textsuperscript{37} Despite these issues, are libraries still pursuing name authority control for their collections? Are rates of participation in name authority control affected by institution type or collection size? The central hypothesis for this study was that graduate institutions and the largest libraries would engage in most aspects of name authority control and smaller libraries and institutions offering lower degree levels would do fewer aspects name authority control. This hypothesis was based on the assumption that libraries
with larger and more complex collections would derive more benefit from good name authority control, that they would be more likely to be authorized to contribute original name authority records to the NAF (i.e., have NACO-trained librarians), and—since they presumably have more financial and personnel resources—that they would be more likely to do their cataloging and name authority work in-house and less likely to outsource to vendors. The authors asked the following research questions:

1. What effect do institution type and collection size have on name authority work?
2. What name authority work is being done?
3. How are name authority processes conducted at different libraries?
4. Who does the authority work?

Research Method

The authors used stratified random sampling to select one hundred United States institutions from each of the following categories: two-year colleges (community colleges), four-year colleges (baccalaureate institutions), and graduate institutions. The samples were taken from the 2008 editions of Peterson’s Graduate Schools in the U.S., Peterson’s 4 Year Colleges, and Peterson’s 2 Year Colleges.38 Contact information for someone in the library, preferably the library head of cataloging, head of technical services, or similar position was obtained from reference sources. During late November and early December 2008, the authors sent e-mail messages to the identified person inviting them to participate in a survey posted on the Web tool Survey Monkey or to forward the survey to an appropriate spokesperson for their library. After two weeks, a follow-up e-mail message was sent to stimulate additional responses. Graduate institutions had a response rate of 40 percent, four-year schools had 35 percent, and two-year schools had 24 percent, for a total of ninety-nine responding libraries out of the three hundred initially contacted. Although a probability sample was taken, results of the study should be generalized with caution to academic libraries as a whole because the response rates were fairly low and the final samples, especially for community colleges, were small.

Many of the survey questions were based on previous studies by Wells and Wolverton and were meant to expand upon the results that they found.39 Wells compared public libraries with community colleges, four-year colleges, and university libraries in Mississippi. While she received a reasonable number of responses from public libraries (thirty-two), she only had data from sixteen community colleges, eight four-year schools, and seven universities. Wolverton had an excellent sample of 193 respondents, but he only surveyed doctoral institutions, so his results cannot be generalized to smaller libraries or to libraries serving other types of academic institutions. Both of these researchers did an excellent job of addressing an information need in the cataloging authority control literature, and this study is meant to expand upon their contributions by comparing different institution types (as Wells did) with larger sample sizes. Other questions in this study were drawn from ideas from the literature and from the work experience of the study authors. See the appendix for the survey questions used.

The authors compared data with percentages. When the percentage differences were sizable, chi-square for independent groups was used to test for statistical significance of the difference. While percentages give an indication of differences between groups, the chi-square test indicates whether the differences between groups on that question were large enough that they were unlikely to have occurred by chance. The chi-square was calculated using frequencies in 2 x 2 contingency tables and tested for significance at the .05 level, which requires a chi-square result of greater than 3.841.

Discussion of the Independent Variables

The first research question introduced the independent variables that the authors used in the analysis of the other three research questions. One of the independent variables, institution type, was created through the stratified sampling process. The second independent variable, collection size, was created as follows: survey respondents were asked to provide the name of their institution so that publicly available library collection size information could be gathered. Most respondents (90 percent) did provide their institution name, and collection size data were gathered from the American Library Directory 2008/2009.40 Institution name also was used to verify that responding institutions were correctly identified by institution type.

Collection sizes ranged from 4,100 volumes to 6,000,000 volumes, with 6,000,000 being an outlier. Without the outlier, collections ranged from 4,100 to 3,264,231 with a mean collection size of 329,998 volumes. Median collection size was much smaller at 117,737 volumes. The collection size variable was created by dividing collection sizes into three equal categories of 30 libraries each. The division between small and medium collections was at 93,580 volumes, and between medium and large collections at 215,596 volumes. Not all graduate institution libraries were large, and not all community college libraries were small (see table 1).

Findings

Because name authority work is part of cataloging in general, the first survey question was a background question that
asked how much cataloging was done by the library (in-house) compared to cataloging provided by a vendor (outsourced). Two-year institutions were most likely to report doing “almost all” cataloging in-house at 88 percent compared to 58 percent of graduate institutions, a statistically significant difference. The differences between graduate and four-year institutions and between two-year and four-year institutions were not significant. Graduate institutions were most likely to state that “most cataloging is done in-house, but some is outsourced.” When the answer categories “almost all” and “most” were combined, graduate institutions and two-year schools were equivalent at 88 percent of both types, along with 80 percent of four-year schools.

Concerning cataloging practices by collection size, 90 percent of mid-size libraries and 80 percent of small libraries stated that “almost all” cataloging was done in-house, both significantly more likely to do so than large libraries at 43 percent. When “almost all” and “most” were combined, all collection sizes agreed at 83 to 90 percent (see table 2).

### Authority Work Being Done

The second research question asked, What name authority work is being done? This research question included, Is authority work being done at all? For what types of names? On what types of materials?

Libraries were asked to indicate on an ordinal scale of “always,” “usually,” “sometimes,” and “never” whether name authority work was done as part of cataloging in their library. Data showed little variation by institution type, with about 30 percent of all types stating they “always” did name authority work. By collection size, 70 percent of both large and medium libraries reported doing authority work “always” or “usually,” compared to 53 percent of small collections, a difference that was not statistically significant. Only 3 percent of large collections said they “never” did name authority compared to 17 percent of small collections. More details on the results of this question are in table 2.

Respondents were asked to identify which types of names were controlled in their institutions. In an analysis by institution type, personal names were the mostly likely to be controlled, reported by more than 90 percent of all types.

<table>
<thead>
<tr>
<th>Table 1. Collection Size by Institution Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collection Size in Volumes</td>
</tr>
<tr>
<td>Smallest one-third: up to 95,580</td>
</tr>
<tr>
<td>Middle one-third: up to 215,596</td>
</tr>
<tr>
<td>Largest one-third: more than 215,596</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 2. Cataloging and Name Authority Practice by Institution Type and Collection Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cataloging</td>
</tr>
<tr>
<td>Almost all done in-house</td>
</tr>
<tr>
<td>Most done in-house, some outsourced</td>
</tr>
<tr>
<td>Proportion in-house/outsource about even</td>
</tr>
<tr>
<td>Most outsourced, some done in-house</td>
</tr>
<tr>
<td>Almost all outsourced</td>
</tr>
</tbody>
</table>

**Name Authority Work Done**

| Always | 31 | 29 | 29 | 30 | 43 | 23 |
| Usually | 33 | 26 | 38 | 40 | 27 | 30 |
| Sometimes | 28 | 29 | 21 | 27 | 20 | 30 |
| Never | 8 | 17 | 13 | 3 | 10 | 17 |

NACO-Authorized

| 35 | 25 | 0 | 41 | 16 | 5 |

*Note: This is the overall n; however, there was slight variation per item for n as not every respondent answered every question.*
Corporate and geographic names were controlled by 73 to 83 percent of all institutions. Uniform titles were least likely to be controlled, with only about half of two-year and four-year schools and 69 percent of graduate institutions doing so. Control of uniform titles was significantly more likely to be done by graduate institutions than by four-year schools (see table 3).

When examining which types of names were controlled by collection size, several differences were statistically significant. While nearly all libraries controlled personal names, large libraries were significantly more likely than small libraries to control all other types of names: corporate, geographic, series, conference, and uniform titles. Medium libraries also were significantly more likely to control corporate, geographic, and conference names than small libraries. These results are reported in detail in table 3. When the name types from this “check all that apply” survey question were summed, half of the libraries surveyed controlled all six types of names.

Libraries also make decisions about which types of materials will received name authority control. Nearly all (95 to 100 percent) of all institutions, regardless of type, controlled names for monographs. Other material types were less likely to be controlled, with about half to three-quarters of graduate and four-year institutions controlling names for serials, electronic materials, and “other nonbook materials.” Two-year schools were least likely to control nonmonographs, particularly electronic materials, for which only 29 percent of them did so. The differences by institution types for different materials were significant between graduate institutions and two-year schools in the control of serials and electronic materials (see table 3).

### Name Authority Processes at Different Libraries

Research question 3 asked, How are name authority processes conducted at different libraries? This question included an examination of when in the cataloging process the name authority work was completed, a discussion of name authority verification, issues concerning authority modules, and processes for updating headings.

Authority work can be done at different points in the library process: precataloging, such as during acquisitions; during cataloging; or postcataloging, such as during database maintenance. In this study only two libraries, one small and one large, reported doing the bulk of name authority work during the precataloging stage. Large libraries were significantly more likely than small or mid-size libraries to do their name authority work postcataloging and, correspondingly, significantly less likely to do name authority work during cataloging. While two-year colleges were more likely to do name authority work during cataloging and less likely to do so during postcataloging, none of the differences by institution type were statistically significant (see table 4).

The authors asked respondents if they verified name authority when doing original cataloging, copy cataloging, or upon receiving vendor-supplied cataloging records. Answer categories were recoded into a dichotomous “always or usually” and “sometimes or never.” Institution type showed little difference in practices for original cataloging; 75 to 82 percent verified name authority. Approximately half of all institution types also verified name authority when copy cataloging. Two-year schools were significantly more likely to verify name authority on received vendor records than graduate institutions. Differences by collection size

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Table 3. Types of Name Authority Work Done by Institution Type and Collection Size

<table>
<thead>
<tr>
<th>Types of Names Controlled</th>
<th>Graduate % ( (n = 39)^* )</th>
<th>4-Year % ( (n = 35)^* )</th>
<th>2-Year % ( (n = 24)^* )</th>
<th>Largest % ( (n = 30)^* )</th>
<th>Middle % ( (n = 30)^* )</th>
<th>Smallest % ( (n = 30)^* )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal</td>
<td>100</td>
<td>93</td>
<td>95</td>
<td>100</td>
<td>100</td>
<td>92</td>
</tr>
<tr>
<td>Corporate</td>
<td>83</td>
<td>73</td>
<td>80</td>
<td>93</td>
<td>89</td>
<td>58</td>
</tr>
<tr>
<td>Geographic</td>
<td>78</td>
<td>7</td>
<td>80</td>
<td>90</td>
<td>85</td>
<td>54</td>
</tr>
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<td>Series</td>
<td>78</td>
<td>73</td>
<td>55</td>
<td>90</td>
<td>67</td>
<td>58</td>
</tr>
<tr>
<td>Conference</td>
<td>75</td>
<td>63</td>
<td>55</td>
<td>83</td>
<td>82</td>
<td>42</td>
</tr>
<tr>
<td>Uniform titles</td>
<td>69</td>
<td>47</td>
<td>50</td>
<td>76</td>
<td>56</td>
<td>38</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Types of Materials Controlled</th>
<th>Graduate % ( (n = 39)^* )</th>
<th>4-Year % ( (n = 35)^* )</th>
<th>2-Year % ( (n = 24)^* )</th>
<th>Largest % ( (n = 30)^* )</th>
<th>Middle % ( (n = 30)^* )</th>
<th>Smallest % ( (n = 30)^* )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monographs</td>
<td>100</td>
<td>97</td>
<td>95</td>
<td>100</td>
<td>100</td>
<td>92</td>
</tr>
<tr>
<td>Other nonbook materials</td>
<td>75</td>
<td>72</td>
<td>62</td>
<td>90</td>
<td>74</td>
<td>48</td>
</tr>
<tr>
<td>Serials</td>
<td>69</td>
<td>48</td>
<td>43</td>
<td>72</td>
<td>56</td>
<td>40</td>
</tr>
<tr>
<td>Electronic materials</td>
<td>58</td>
<td>55</td>
<td>29</td>
<td>69</td>
<td>63</td>
<td>20</td>
</tr>
</tbody>
</table>

*Note: This is the overall \( n \); however there was slight variation per item for \( n \), as not every respondent answered every question.*
were greater than by institution type, but most of these differences still were not significant. The only significant difference by collection size was that medium libraries were significantly more likely than large libraries to verify name authority when copy cataloging (see table 4).

All institution types and library sizes were more likely to use OCLC than any other source for verifying name authority. The next most popular verification source was the LC authorities website. The other frequently used source was the library’s local authority file. The differences between library types or sizes were not statistically significant. Potential verification sources used by 15 percent or less in any category were vendor files, regional cataloging systems, or other libraries’ databases (such as through Z39.50). When verification sources were grouped into no-cost sources (LC authorities, other libraries’ catalogs, and local authority file) versus purchased sources (OCLC and vendor files), there was no difference by institution type but there was an important difference by library size. Small libraries were significantly less likely to use purchased sources for name authority verification than medium or large libraries. Forty percent of small libraries used no purchased sources compared to 17 percent of large and 13 percent of medium libraries. No difference was found between institution types on the use of no-cost sources (see table 4).

The LC/NAF periodically updates its authority records, and libraries must maintain their authority files to stay current. Respondents could check several categories that described how existing headings were identified for updating in their authority file. The most commonly used methods

Table 4. Name Authority Processes by Institution Type and Collection Size

<table>
<thead>
<tr>
<th>When Name Authority Work is Done</th>
<th>Graduate % (n = 39)*</th>
<th>4-Year % (n = 35)*</th>
<th>2-Year % (n = 24)*</th>
<th>Largest % (n = 30)*</th>
<th>Middle % (n = 30)*</th>
<th>Smallest % (n = 30)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precataloging</td>
<td>3</td>
<td>0</td>
<td>5</td>
<td>3</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>During cataloging</td>
<td>57</td>
<td>50</td>
<td>68</td>
<td>31</td>
<td>64</td>
<td>77</td>
</tr>
<tr>
<td>Postcataloging</td>
<td>41</td>
<td>50</td>
<td>27</td>
<td>66</td>
<td>36</td>
<td>36</td>
</tr>
</tbody>
</table>

Always/Usually Check Verification Sources

<table>
<thead>
<tr>
<th>Verification Sources Used</th>
<th>Graduate % (n = 39)*</th>
<th>4-Year % (n = 35)*</th>
<th>2-Year % (n = 24)*</th>
<th>Largest % (n = 30)*</th>
<th>Middle % (n = 30)*</th>
<th>Smallest % (n = 30)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original cataloging</td>
<td>82</td>
<td>79</td>
<td>75</td>
<td>87</td>
<td>80</td>
<td>69</td>
</tr>
<tr>
<td>Copy cataloging</td>
<td>46</td>
<td>47</td>
<td>54</td>
<td>40</td>
<td>70</td>
<td>45</td>
</tr>
<tr>
<td>On records received from vendors</td>
<td>29</td>
<td>43</td>
<td>57</td>
<td>35</td>
<td>50</td>
<td>42</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Verification Sources Used</th>
<th>Graduate % (n = 39)*</th>
<th>4-Year % (n = 35)*</th>
<th>2-Year % (n = 24)*</th>
<th>Largest % (n = 30)*</th>
<th>Middle % (n = 30)*</th>
<th>Smallest % (n = 30)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCLC</td>
<td>84</td>
<td>79</td>
<td>73</td>
<td>90</td>
<td>86</td>
<td>69</td>
</tr>
<tr>
<td>LC online authority file</td>
<td>46</td>
<td>52</td>
<td>55</td>
<td>41</td>
<td>55</td>
<td>58</td>
</tr>
<tr>
<td>Local authority file</td>
<td>43</td>
<td>36</td>
<td>36</td>
<td>31</td>
<td>35</td>
<td>52</td>
</tr>
<tr>
<td>Regional cataloging system</td>
<td>0</td>
<td>12</td>
<td>9</td>
<td>3</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>Other libraries’ databases</td>
<td>3</td>
<td>9</td>
<td>9</td>
<td>3</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Vendor files</td>
<td>11</td>
<td>0</td>
<td>14</td>
<td>10</td>
<td>14</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Used for Updating Existing Headings</th>
<th>Graduate % (n = 39)*</th>
<th>4-Year % (n = 35)*</th>
<th>2-Year % (n = 24)*</th>
<th>Largest % (n = 30)*</th>
<th>Middle % (n = 30)*</th>
<th>Smallest % (n = 30)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff and patron suggestions</td>
<td>56</td>
<td>43</td>
<td>55</td>
<td>48</td>
<td>50</td>
<td>59</td>
</tr>
<tr>
<td>Heading changes listed by LC</td>
<td>50</td>
<td>46</td>
<td>60</td>
<td>55</td>
<td>54</td>
<td>55</td>
</tr>
<tr>
<td>Reports generated by online catalog</td>
<td>47</td>
<td>46</td>
<td>55</td>
<td>62</td>
<td>46</td>
<td>41</td>
</tr>
<tr>
<td>Periodic file maintenance by a vendor</td>
<td>34</td>
<td>39</td>
<td>30</td>
<td>38</td>
<td>38</td>
<td>18</td>
</tr>
<tr>
<td>Vendor notifications of heading changes</td>
<td>31</td>
<td>11</td>
<td>20</td>
<td>35</td>
<td>21</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Authority Control Module (ACM)</th>
<th>Graduate % (n = 39)*</th>
<th>4-Year % (n = 35)*</th>
<th>2-Year % (n = 24)*</th>
<th>Largest % (n = 30)*</th>
<th>Middle % (n = 30)*</th>
<th>Smallest % (n = 30)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACM actively integrated with bibliographic file</td>
<td>53</td>
<td>59</td>
<td>50</td>
<td>60</td>
<td>57</td>
<td>47</td>
</tr>
<tr>
<td>ACM not actively integrated</td>
<td>26</td>
<td>18</td>
<td>21</td>
<td>30</td>
<td>23</td>
<td>17</td>
</tr>
<tr>
<td>Library catalog has ACM, but not using it</td>
<td>13</td>
<td>9</td>
<td>4</td>
<td>10</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Library catalog does not have ACM</td>
<td>8</td>
<td>15</td>
<td>25</td>
<td>0</td>
<td>17</td>
<td>27</td>
</tr>
<tr>
<td>Library has no computerized catalog</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Note: This is the overall n; however there was slight variation per item for n, as not every respondent answered every question.
were suggestions by librarians, staff, or patrons, and checking the LC's lists of changed headings. The next most likely source was reports generated by the online catalog, followed by periodic file maintenance by a vendor and vendor notifications of changed headings. While the authors found slight differences between institution types and library sizes, the only noteworthy difference was that large libraries were significantly more likely than small libraries to use vendor notifications of heading changes.

Researchers were asked how their authority control module interacted with their library catalog (see question 10 in the appendix for the expanded wording of the question). The authors did not find significant differences between different types of libraries or different sizes of the libraries in this question. Community colleges were slightly less likely to have an authority control module than four-year schools and graduate institutions, and small libraries were less likely to have a module than medium or large libraries. Small libraries were slightly less likely to have an authority module that was actively integrated so that changes made to the authority file are automatically reflected in the bibliographic catalog. Responses to this question are shown in table 4.

Who Does Authority Control Work?

Research question 4 was, Who does the authority work? This included responses about which employees do the work as well as how authority work is distributed within the cataloging division and within the library. Is the work centralized to one person or does each cataloger do their own authority work? Is it done in the cataloging division or in a database management division such as through vendor updates? How are vendors involved? Have staffing changes such as downsizing affected the name authority work done or which employees were doing it?

The first part of this research question asked what types of library employees do name authority work. Across all institution types, librarians with MLIS degrees were the most likely to do name authority work, at more than 90 percent in graduate institutions and four-year schools and 77 percent in two-year schools. Paraprofessional or clerical staff also were highly involved, particularly in graduate institutions. Few libraries reported having this work done by non-MLIS librarians or temporary workers, such as graduate assistants, student workers, or interns. By collection size, MLIS librarians did name authority control at more than 90 percent of large and medium libraries and at 77 percent of small libraries. Large libraries were significantly more likely to use staff for name authority work than medium libraries (see table 5).

To ascertain workflow within the cataloging departments, the authors asked respondents whether authority work was done by each cataloger or done by one or a few people for all the catalogers. Approximately 20 percent of graduate institutions and 60 percent of four-year and two-year colleges reported that the question was irrelevant to them because their cataloging departments were too small to make this distinction. For all libraries for which this question was applicable, two-thirds reported that each cataloger did his or her own authority work, while in one-third of libraries a few people did the authority work for everybody.

When asked in a “check all that apply” format who does the maintenance of the authority file, the vast majority of all library types and sizes stated that this work was done by people who work in cataloging. A small number in each category also specified this work was done by people in the database or systems unit. While approximately 35 percent of libraries in all categories also reported outsourcing this work to vendors, outsourcing was more likely in large libraries (37 percent) and unlikely in small libraries (11 percent). The difference between large and small libraries was statistically significant (see table 5).

The authors found no significant difference by institution type or library size between those who reported using vendors for some aspect of name authority work and those who did not use vendors. Large and medium libraries were more likely to report using vendors than small libraries, but the differences were not significant (see table 5). The authors asked those libraries that did report vendor use to indicate all relevant types of use. Only fourteen two-year and twelve small libraries reported using vendors. To boost the strength of the statistics, the medium and small libraries were combined and two- and four-year institution answers were combined for analysis. When examined individually, medium and small libraries and two- and four-year institutions answered these questions similarly, so pooling their answers was not a problematic approach. Small and medium libraries were twice as likely as large libraries to have purchased a one-time cleanup of their authority file or to purchase periodic cleansups. Large libraries were twice as likely as medium and small libraries to contract for an initial cleanup followed by ongoing reviews of new cataloging. Large libraries also were twice as likely to contract for vendor notification of changes to the library’s existing headings. Although less than 20 percent of large libraries reported purchasing cataloging with name authority along with new library materials, they were more than twice as likely as small and medium libraries to report doing so. Differences in practice by institution type were not as dramatic as those by collection size except for the purchasing of cataloging from vendors: Almost no two- and four-year schools reported using vendors (3 percent), but a full 20 percent of graduate institutions did so (see table 6). The authors asked respondents who reported using vendors if they were satisfied with the services they received. The vast majority, 93 to 95 percent, reported that they were “satisfied” or “somewhat satisfied” with their vendor services.
Previous studies in the literature have reported lost librarian positions in technical services departments in the past decade and resultant changes in work practices because of these losses. To verify this assertion and ascertain how this has affected authority control practice, this survey included a question about position loss and its impact. Graduate institutions were nearly twice as likely to report having lost positions as were four-year or two-year schools. When examined by library size, one-third of small libraries had lost cataloging positions and approximately half of medium and large libraries had lost cataloging positions (see table 5). Overall, 48 percent of respondents reported having lost a librarian position and of those, 47 percent indicated that the loss of the position did not result in a change in the authority control process. Another 33 percent stated that it led to a reduction of authority work and 12 percent said it resulted in authority work being shifted from librarian to staff responsibility. Only 9 percent reported that it led to the outsourcing of authority work. When those libraries that had lost positions are examined by collection size, two-thirds of large libraries, half of small libraries, and one-third of medium libraries stated that the loss had affected name authority practice.

The survey ended with an open-ended question that invited respondents to make any other comments about name authority control in their libraries. The thirty-seven comments in this area revolved around three themes. The first theme involved problems with the integrated system or vendors preventing effective authority work. Sometimes the authority module was not turned on. Some people found their systems’ authority interface to be awkward (or made their work more time-consuming instead of less) and did not allow automatic changes to be done. Others complained that the integrated library system vendors were slow to make their authority modules work better. Others found that vendors did not update records often enough, so that there could be two forms of names in the catalog. Second, some libraries remarked that their authority work had been done as a batch cleanup at the time they obtained the current library system, but it had not been kept up-to-date afterward.

<table>
<thead>
<tr>
<th>Types of Employees</th>
<th>Graduate % (n = 39)</th>
<th>4-Year % (n = 35)</th>
<th>2-Year % (n = 24)</th>
<th>Largest % (n = 30)</th>
<th>Middle % (n = 30)</th>
<th>Smallest % (n = 30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Librarians with MLIS degree</td>
<td>92</td>
<td>93</td>
<td>77</td>
<td>90</td>
<td>96</td>
<td>77</td>
</tr>
<tr>
<td>Librarians without MLIS degree</td>
<td>5</td>
<td>10</td>
<td>5</td>
<td>10</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Paraprofessional or clerical staff</td>
<td>57</td>
<td>37</td>
<td>41</td>
<td>63</td>
<td>32</td>
<td>42</td>
</tr>
<tr>
<td>Temporary workers</td>
<td>8</td>
<td>10</td>
<td>0</td>
<td>13</td>
<td>7</td>
<td>0</td>
</tr>
</tbody>
</table>

**Authority File Maintenance**

| People in cataloging or technical services  | 92                 | 57               | 100              | 93                | 100              | 93                |
| People in the database or systems unit      | 14                 | 13               | 9                | 17                | 7                | 11                |
| Outsourced to vendors                      | 28                 | 29               | 23               | 37                | 22               | 11                |

**Use of Vendors for Name Authority**

| Used vendors in some capacity               | 55                 | 52               | 58               | 63                | 60               | 40                |

**Loss of Librarian Positions in Cataloging**

| Library lost cataloging positions          | 64                 | 39               | 39               | 55                | 50               | 37                |

*Note: This is the overall n; however there was slight variation per item for n as not every respondent answered every question.*

<table>
<thead>
<tr>
<th>Purposes for Which Used Vendors*</th>
<th>Graduate % (n = 21)</th>
<th>2- &amp; 4-Year % (n = 31)</th>
<th>Large % (n = 19)</th>
<th>Medium &amp; Small % (n = 30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-time cleanup of authority file</td>
<td>35</td>
<td>43</td>
<td>28</td>
<td>52</td>
</tr>
<tr>
<td>Periodic cleanups of authority file</td>
<td>20</td>
<td>33</td>
<td>17</td>
<td>31</td>
</tr>
<tr>
<td>Initial cleanup with ongoing reviews</td>
<td>40</td>
<td>37</td>
<td>50</td>
<td>25</td>
</tr>
<tr>
<td>Notification of changes to existing headings</td>
<td>45</td>
<td>23</td>
<td>50</td>
<td>24</td>
</tr>
<tr>
<td>Supplies cataloging with name authority for new purchases</td>
<td>20</td>
<td>3</td>
<td>17</td>
<td>7</td>
</tr>
</tbody>
</table>

*Calculated only for those who reported using vendors.*
Analysis

Bangalore and Prabha discussed variations in the application of authority control depending on collection size, patron body, and funding, noting that there was a great variety of authority practice among libraries. This study tested their assertion by examining institution type and library size in relationship to name authority control in cataloging. While both of these variables were related to differences in practice, analyses showed more variation by collection size than by institution type.

Initially, the authors asked respondents how much cataloging was done in-house at their library as opposed to outsourced. For all institution types and library sizes, 80 to 90 percent stated that “almost all” or “most” cataloging was done in-house. Surprisingly, large libraries and libraries at graduate institutions were significantly more likely than other libraries to outsource some of their cataloging, while other libraries were more likely to do almost all of it in-house.

One of the central hypotheses in this study was that large libraries and graduate institutions would be most likely to do various kinds of authority work and most likely to do the work in-house. The first part of this hypothesis was partially supported—large and medium libraries were more likely to report that they “always” or “usually” did name authority, although there was little difference by institution type. This study and Wolverton’s both found that almost all graduate institutions do at least some authority work, with only 5 percent of Wolverton’s and 8 percent of this study’s graduate institution respondents stating that they never did authority work.

The twenty-five libraries that did not do name authority work reported several reasons for not doing so. Slightly less than half (48 percent) stated that they would like to do authority control but did not have the staff to do it. Another 40 percent stated they would like to do it but did not have the budget to support it. One-fifth (20 percent) stated that name authority control was not that useful because of their collection type or size. Few libraries (16 percent) chose the option that name authority control is of less value in an online catalog. A two-year and a four-year school said that name authority control costs more than the value it adds to records. These findings echoed those of Wells, whose respondents cited predominately lack of funds or lack of staff time as reasons not to do authority control. In Wolverton’s study, of those libraries that did not do authority work, a similar 41 percent claimed insufficient funds, but half as many as the current study (24 percent) stated insufficient staff. Wolverton’s study also found that 47 percent claimed they did not have time to do the work, a variable that could be related to insufficient staff.

An aspect of doing name authority work is establishing new headings, a task for which not all libraries are authorized to contribute outside of their local authority file. Wolverton’s study only collected data from institutions with the Carnegie classification as Doctoral/Research Extensive or Intensive, and 41 percent of his respondents stated they were NACO-authorized, compared to 35 percent of the graduate institutions in this study, a similar result. Comparing within institution types in this study, graduate institutions were significantly more likely to be NACO-authorized than two-year institutions, but not significantly more likely than four-year schools. By collection size, large libraries were significantly more likely to be NACO-authorized than small libraries, but not significantly more likely than medium libraries. Being NACO-authorized was related to being more likely to do name authority: 82 percent of NACO-authorized compared to 63 percent of non NACO-authorized libraries said they “always” or “usually” did name authority, though this difference was not statistically significant.

Personal names were by far the most likely to be controlled by libraries in this study, and uniform titles least likely. Large libraries were significantly more likely to do name authority control than small libraries on names other than personal names. Medium libraries also were significantly more likely to control some types of names—corporate, geographic, and conference—than small libraries. Wolverton found a slightly lower percentage of graduate institutions controlling personal names, 88 percent compared to 100 percent in this study, but his respondents reported a slightly higher percent controlling conference names, series, and uniform titles (79 to 88 percent compared to 69 to 78 percent in this study). It is difficult to compare Wells’ results across institution types because her sample sizes were too small to calculate percentages by type.

Almost all library types reported controlling name authorities for monographs. Serials and electronic materials were significantly more likely to be controlled by graduate institutions than by two-year schools. By collection size, while name authority was controlled for monographs by almost all libraries, large libraries were significantly more likely than small libraries to control serials, electronic materials, and other nonbook materials. Medium libraries also were significantly more likely to control electronic materials than were small libraries.

The timing of when authority work is done can vary between institutions. While institution type was only moderately linked to when name authority work was done, collection size was strongly related to the timing of the authority work. Small and medium libraries were significantly more likely to do their name authority during the cataloging process and large libraries significantly more likely to do it postcataloging, such as during database maintenance. Very few libraries reported doing name authority during a precataloging process.
Two-year schools were significantly more likely to verify name authority on received vendor records than were graduate institutions. The only significant difference by collection size was that medium libraries were significantly more likely than large libraries to do name authority work when copy cataloging. Libraries were most likely to use OCLC for verifying name authority, followed by using the LC authorities website and libraries’ local authority files. Libraries were unlikely to use vendor files, regional cataloging systems, or other libraries’ databases. Small libraries were significantly less likely to use verification sources that cost money, but there were no meaningful differences between library types and sizes on the use of no-cost verification sources. Wells’ respondents were most likely to access name authority through their local authority file (53 percent, a bit more likely than respondents in the current study) and OCLC (45 percent, much less likely than respondents in this study). Only 13 percent of Wells’ respondents used the LC internal system, as the no-cost LC authorities website was not yet available at the time of her study.

When the authors asked respondents about their catalog’s authority control module, they found few differences between libraries. Depending upon institution type or collection size, 47 to 60 percent of respondents reported that their authority control module was integrated with their catalog. Small libraries and libraries at two-year colleges were more likely than other libraries not to have an authority module, and small libraries were particularly less likely to have an authority module that was integrated with the bibliographic file. In 2000, Wells’ study found a higher percentage of libraries without authority modules—36 percent compared to the 0 to 27 percent in this study. This difference could be a result of eight years of continuing technological development or perhaps because half of her respondents were public libraries while this study only examined academic libraries. Wells also had several respondents who reported not having an online catalog at all, whereas no libraries in this study lacked online catalogs.

Wolverton found that authority work was done by MLIS librarians in 94 percent of doctoral institutions, very similar to the 92 percent of graduate institutions and 93 percent of four-year schools found in this study. His study reported a higher rate of participation by paraprofessional staff—78 percent compared to 57 percent of graduate institutions and 37 percent of four-year schools found in this study. Wells noted a slightly lower rate of participation by MLIS librarians (80 percent) and a 42 percent rate of involvement by paraprofessionals.

Bangalore and Prabha suggested that authority work is centralized in some libraries to one or a few individuals while in other libraries it is decentralized. In this study, two-thirds of those respondents whose cataloging departments were large enough for this question to be applicable reported that authority work was decentralized to each cataloger while one-third said it was centralized to one or a few people.

Librarians have expressed concern about the deprofessionalization of cataloging as cataloging procedures have changed over the past thirty years. As quoted earlier, Bordeianu and Seiser stated a decade ago that “paraprofessional participation in cataloging has been increasing steadily since 1977.” Wells and Wolverton asked their respondents about librarians versus paraprofessionals in name authority control, and this study asked this question again. All three studies found that between 75 and 90 percent of institutions reported that name authority control was done by MLIS librarians. Paraprofessional involvement in authority control was reported by 42 to 78 percent of libraries. Graduate institutions were much more likely to involve paraprofessionals in this activity than two-year or four-year schools. Other than graduate institutions, fewer than half of libraries reported paraprofessional involvement in authority control, so one might conclude that authority control is still predominately treated as a professional activity in library practice.

There was a substantial difference between library types and sizes concerning outsourcing. Contrary to the study hypotheses, large libraries and graduate institutions were the least likely to do “almost all” of their cataloging and name authority work in house, but instead they were more likely to report some outsourcing for cataloging and authority work. They also were more likely than small libraries to contract for ongoing vendor services, such as an initial cleansing with ongoing reviews, vendor notifications of name authority changes for existing name headings, and receiving cataloging records with purchased materials. Large libraries were much more likely to report doing their name authority control during database maintenance rather than during cataloging itself; this also may be a reflection of the use of vendor services. Small and medium libraries were more likely to purchase one-time or occasional vendor services, such as file cleanups.

This study had a slightly higher rate of graduate institutions reporting using vendors for authority work—53 percent compared to 45 percent in Wolverton’s research. However, the two groups used vendors differently. Vendors performed a one-time run of the authority files of 35 percent of respondents in this study, compared to 25 percent of Wolverton’s respondents. Additionally, 40 percent (compared to 60 percent of Wolverton’s respondents) employed an initial run with ongoing reviews, and 45 percent (compared to Wolverton’s 65 percent) had vendors supply notification of changes in existing authority headings. This study, then, showed graduate institutions with less of an ongoing relationship with vendors than the previous study found.

Wells found that two-thirds of technical services departments at graduate institutions had lost positions through
restructuring or downsizing, and this study also found two-thirds of graduate institutions had lost cataloging positions. This trend was less pronounced in two-year schools and small libraries, where approximately 40 percent reported lost positions. A possible reason for this may be that smaller libraries have fewer positions to lose. An administrator might hesitate to cut the only staff or librarian position in a small cataloging department, but reducing staff might seem more manageable in a larger department with several employees. The loss of staff positions only affected the name authority control practice in some libraries, and this was most likely to happen in large libraries. These data suggest that different institution types and sizes lost positions at different rates, and the results of the losses were experienced differently by different kinds of libraries.

Conclusions

This study had two main aims: to build upon previous research on name authority control in order to enhance knowledge of how name authority work is being conducted by different types of academic libraries, and to capture a snapshot of how name authority work is currently being done before the new cataloging rules lead to changes in practice. The results will allow future research to study the effect of the new rules on name authority practice. For example, the concept and use of uniform titles will be somewhat different in the RDA cataloging rules, therefore a useful future research question might consider whether the control of uniform titles will increase under the new rules. This study may provide information that will help explore the effect of international developments in name author control on name authority practice in the United States. The results of this study also could be useful to administrators who are evaluating cataloging practice in their libraries. Knowledge of how similar institutions are participating in name authority could be helpful in decision-making processes for allocating budgets and staff positions or for considering various outsourcing services.

Much of the literature concerned whether name authority control added enough value to records to justify the cost. While this study did not examine the efficacy of name authority for the end user, the results show that name authority work is very entrenched in academic library practice, almost universally so for the control of personal names and for monographs. This seems to indicate that its value is accepted in the profession.

The foundational hypothesis of this study was partially incorrect and partially supported. Contrary to expectations, libraries at graduate institutions and the largest libraries were the most likely to outsource some of their cataloging and some of their authority control, while smaller libraries and libraries at nongraduate institutions were more likely to do this work in-house. The remaining part of the central hypothesis was supported—large libraries and those at graduate institutions were more likely to participate in more aspects of name authority control than other libraries, controlling a wider variety of names and controlling names for more types of materials. While previous studies analyzed work processes by institution type, this study found that the larger differences in practice were more associated with collection size than with institution type. Researchers should keep this in mind when designing future studies.

The authors identified several areas of statistical significance when libraries were compared by collection size. Large libraries were significantly more likely than small libraries to be NACO contributors. They were significantly more likely to control every type of listed name other than personal names. Large libraries were more likely than small or medium libraries to do their authority work post-cataloging, such as during database maintenance, and more likely than small libraries to use vendor notices for heading changes and to contract with vendors for file maintenance. They were more likely to use purchased sources (such as OCLC) for verifying name authority. Additionally, they were more likely than small libraries to have paraprofessional staff doing authority work. Medium libraries were significantly more likely than large libraries to verify name headings when doing copy cataloging and significantly more likely than small libraries to control corporate, geographic, and conference names. They also were more likely than small libraries to use purchased sources for heading verification. Small and medium libraries were significantly more likely than large libraries to state that they did “almost all” cataloging in-house. An analysis of which items were significantly different by collection size suggests that the majority of practices in which large libraries were significantly more likely to engage than small libraries concerned the use of purchased vendor services and therefore were budget-related.

Fewer areas revealed a statistically significant difference by type of institution. Graduate institutions were significantly more likely than two-year schools to be NACO-authorized and were significantly more likely than two-year schools to control name authority for serials and electronic materials. They also were significantly more likely than four-year schools to control uniform titles. Two-year schools were significantly more likely than graduate institutions to state that “almost all” of their cataloging was done in-house and to state that they verified name authority on the records that they receive from vendors. For libraries by type of institution, areas with statistically significant differences generally concerned types of name authority work being done.

This study did not collect data about budgets and funding, but the findings highlighted many questions about the effects of funding on name authority practice. A variety of
patterns in the data suggest that name authority procedures followed by different-size libraries could be related to limits imposed by the smaller budgets of small libraries compared to the budgets of larger libraries. Small libraries were less likely to use vendor services for cataloging and name authority work. They also were less likely to purchase services such as OCLC for verifying name authority. When they did use vendors, they were more likely to use a one-time service or an occasional cleanup rather than ongoing reviews, ongoing vendor notification of name authority changes, or other ongoing vendor work. They also were less likely to have an authority control module as part of their library catalog. The most common reason given by small libraries for why they did not control name authorities was because they did not have the staff to do so. Future studies could benefit from asking more explicit questions concerning the effect of the budget on name authority decisions.

Replicating this study with public libraries and perhaps school library media centers might be valuable. Collecting this additional information would allow a much more in-depth comparison of name authority practice across library types. A larger sample size would be helpful so that the results have more weight and because larger samples lend themselves to additional statistical techniques.

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**Appendix. Survey Instrument**

I. **Name Authority Work Done at Your Library**

The following questions reflect what type of name authority work is done at your library.

1. In order to get an idea of how much cataloging is done in-house compared to cataloging provided by a vendor (outsourced), please pick the following statement that most accurately describes cataloging of new items in your library:
   a. Almost all cataloging is done in-house.
   b. Most cataloging is done in-house, but some is outsourced.
   c. The proportion of items cataloged in-house and those outsourced is roughly even.
   d. Most cataloging is outsourced, but some is done in-house.
   e. Almost all cataloging is outsourced.

2. Is name authority work done as part of cataloging in your library?
   a. Always
   b. Usually
   c. Sometimes
   d. Never

3. For which kinds of materials is name authority work done? (Circle all that apply.)
   a. Monographs
   b. Serials
   c. Electronic materials
   d. Other nonbook materials
   e. Not applicable
4. Which types of names are controlled in your library? (Circle all that apply.)
   a. Personal names
   b. Corporate names
   c. Conference names
   d. Geographic names
   e. Series names
   f. Uniform titles
   g. Not applicable

5. Are name authorities checked when doing original cataloging of materials?
   a. Always
   b. Usually
   c. Sometimes
   d. Never

6. Are name authorities checked when materials are copy cataloged?
   a. Always
   b. Usually
   c. Sometimes
   d. Never

7. Are name authorities checked on cataloging records received from vendors?
   a. Always
   b. Usually
   c. Sometimes
   d. Never

8. What sources are used in your library to verify name authority? (Circle all that apply.)
   a. Local authority file
   b. OCLC authority file
   c. Library of Congress Authorities (authorities.loc.gov)
   d. Regional cooperative cataloging system
   e. Other libraries' databases (with Z39.50 for example)
   f. Vendor files
   g. Not applicable
   h. Other (please specify)

9. At what point in the cataloging process is the bulk of name authority work done in your library?
   a. Precataloging during acquisitions
   b. During cataloging
   c. Postcataloging, such as during database maintenance
   d. Not applicable (library does not do name authority work)

II. Your Library's In-House Authority File

The following questions concern your library's in-house authority file.

10. Please choose the response that most accurately reflects your library catalog's authority control module:
    a. The authority control module is actively integrated with the online catalog (cross references and/or changes made
to the file are automatically reflected in the bibliographic catalog).
    b. The authority control module is not actively integrated (changes to the authority records also need to be made in
the bibliographic records).
    c. Our library's computer catalog does have an authority control module but we are not using it.
    d. Our library's computer catalog does not have an authority control module.
    e. Our library does not have a computerized catalog.

11. How are existing headings updated in your library's name authority control file? (Circle all that apply.)
    a. Using reports generated by the online catalog
    b. Using vendor notifications of changes to existing headings
c. Inputting changes in headings listed by the Library of Congress
d. Periodic file maintenance by a vendor
e. Suggestions by other library staff (i.e., reference librarians) and/or patrons
f. Not applicable

12. Who performs the authority file maintenance work? (Circle all that apply.)
   a. People who work in the cataloging/technical services unit
   b. People who work in the database/systems maintenance unit
   c. Outsourced to vendors
   d. Not applicable

III. Who Does Name Authority Work for Your Library?

The following questions concern the people involved in doing name authority control work in your library, and what relationship your library has with a vendor for name authority control.

13. What types of library employees do name authority work in your library? (Circle all that apply.)
   a. Librarians with an MLIS degree
   b. Librarians without an MLIS degree
   c. Paraprofessional and/or clerical staff
   d. Temporary workers (such as student workers, graduate assistants, interns, and so on)
   e. Not applicable
   f. Other (please specify)

14. Does each person who is cataloging an item do the name authority control for the piece they are working on, or is the name authority control work centralized to a limited number of people?
   a. Each person does his/her own name authority work.
   b. A few people concentrate on name authority work and provide it for all the catalogers.
   c. This question is not applicable because our cataloging department is very small.
   d. This question is not applicable because name authority control is done outside of the cataloging unit.
   e. Not applicable (library does not do name authority work).

15. The library literature reports that many libraries have lost staffing since 1990, particularly in their technical services units. Concerning this issue, please indicate which answer best represents your library:
   a. Cataloging has lost positions leading us to reduce our name authority control efforts.
   b. Cataloging has lost professional positions and name authority work has been shifted to staff as a result.
   c. Cataloging has lost positions and outsourced name authority to a vendor as a result.
   d. Cataloging has lost positions, but that has not affected the name authority control work done.
   e. Our cataloging division has not lost positions.
   f. Our cataloging division has gained positions.

16. How many librarians are employed in your cataloging unit?

17. How many paraprofessional/clerical staff are employed in your cataloging unit?

18. Is your library authorized through NACO to establish name authority records for the national authority file?
   a. Yes
   b. No
   c. Don’t know

19. If your library has used a vendor for name authority control processes, what type of services did the vendor provide to your library? (Circle all that apply.)
   a. One-time cleanup of the name authority file
   b. Periodic cleanups of the name authority file
   c. Initial cleanup, followed by ongoing reviews of new cataloging
   d. Vendor supplies notification of changes to the library’s existing headings
   e. Vendor supplies cataloging with name authority for library’s new purchases
   f. Not applicable
   g. Other (please specify)
20. If your library has used a vendor for name authority control processes, how satisfied are you with the results?
a. Satisfied  
b. Somewhat satisfied  
c. Somewhat dissatisfied  
d. Dissatisfied  
e. Not applicable

IV. General Questions

21. If your library does not engage in name authority control either in-house or outsourcing to a vendor, why has the decision been made not to do name authority control? (Circle all that apply.)
a. Name authority control is of less value in an online catalog.  
b. Name authority control is not that useful given our library collection’s type/size.  
c. Name authority control costs more than the value it adds to records.  
d. We would like to do name authority control but do not have the budget for it.  
e. We would like to do name authority control but do not have the staff for it.  
f. Not applicable  
g. Other (please specify)

22. What is the name of your institution?

23. If you have any other comments about name authority control in your library that you would like to make, please do so here.
Identifying Standard Practices in Research Library Book Conservation

By Whitney Baker and Liz Dube

The field of research library conservation has emerged as a distinct discipline and undergone major refinements during the past fifty years. Professional organizations and training programs have been established, new treatment techniques have been developed and promoted, and increasingly, special and general collections practitioners have collaborated on treatment solutions. Despite such dramatic growth and definition within the field, no comprehensive assessment of the book treatment practices employed by research libraries for special and general collections has been conducted. In response to this need, the authors undertook a study to investigate and document the types of treatments employed by research libraries to conserve and maintain their book collections, and to compare the practices used for special collections with those used for general collections. This paper describes the evolution of the field over the past fifty years and identifies book conservation techniques the study found to be routinely, moderately, or rarely employed in research libraries. A comparison of special and general collections treatment practices suggests that while notable differences exist, many treatment practices are common in both contexts. Implications of the study’s results and potential applications for this new information are stated.
of conservation treatment practices employed by research libraries to determine how the increasing professionalization may be affecting practice. Therefore the authors undertook this study to document the types of treatments employed by research libraries to conserve their book collections and to compare practices applied to special collections with those applied to general collections. This paper reports findings from a survey that collected information about the organizational responsibilities and educational background of conservation practitioners and their use of specific book conservation treatment procedures in both special and general collections contexts.

The results of this study can inform analyses of the extent to which practices are becoming standardized, the use of specific procedures in special versus general collections contexts, and how changing practices (both organizational and procedural) are providing benefits to libraries such as more effective treatments or more efficient operations. This study also can serve as a baseline for further assessments by providing a defined list of commonly applied procedures and a measure of how widely they are used. This information can assist libraries in making further refinements to their conservation operations and charting progress in the field. The method of identifying specific procedures and measuring the extent to which they are used in specific functional areas also may be applicable in studying the organization of and relationships between other technical service functions, where the nature of the work has undergone significant change in recent years.

**Evolution of Book Conservation Practices in Research Libraries**

The authors examined the book conservation literature to establish a historical context for the survey. The framework outlined in this section informed the direction and composition of the survey, particularly with respect to the selection of techniques to be studied and the rationale for comparing special and general collections practices.

The field of research library conservation has changed dramatically during the past fifty years. The devastating 1966 flood in Florence, Italy, which sparked an international collaborative response effort from conservators, is often cited as the event that catalyzed and informed a profound transformation in thinking about the preservation of library collections. An analysis of the literature published ten years before and after the flood concluded that it marked “a turning point in the physical treatment of books as cultural artifacts.”

While previous approaches tended to focus only on the treatment of individual treasures, the emerging approach began grappling more holistically with collection needs, employing preventive and remedial—as well as individual and collection-wide—measures. One example of this new focus on collections was the appointment of Peter Waters as conservation officer at the Library of Congress in 1967 to develop and model an “ability to deal with large numbers of items on a mass basis” in the special collections context. Waters’s experience recovering collections during the Florence flood led him to develop the concept of “phased conservation,” which he considered “an extension of collection maintenance.” His program incorporated housings for damaged material and a treatment approach that combined “one-on-one attention to material of great value” with “simple measures to improve the condition of large collection[s].”

The fifteen years following the Florence flood (1967–81), which featured the establishment of training programs and the first wave of preservation programs in research libraries, “can be viewed as a period of development and self definition [for the field of preservation].” In 1967, the publication of the first two modern book repair manuals—by Horton and Cunha, respectively—helped document and standardize book conservation treatments and procedures.

In 1969, Banks delivered the first professional paper pertaining to book conservation to the International Institute for Conservation-American Group, now the American Institute for Conservation (AIC). Training programs in book conservation began in earnest in the 1970s at locations such as New York University, Case Western Reserve, Southern Illinois at Carbondale, Yale, and Princeton. Especially significant was the first degree-granting program in library preservation and conservation, established at Columbia University/New York University in 1981. Following the lead of the Library of Congress and Newberry Library, several other major U.S. research libraries established preservation departments and conservation laboratories in the 1970s and 1980s. These included programs at Yale, the New York Public Library, Harvard University, Columbia University, University of Utah, Southern Illinois University, Stanford University, University of California–Berkeley, and the Harry Ransom Center at the University of Texas at Austin.

During the next fifteen years (1982–96), as many more libraries developed or expanded preservation programs, the field grappled with how to address the needs of entire research library collections. While conserving special collections had become integral to preservation programs, book repair practices associated with general collections lagged behind significantly. Research libraries have always needed to repair general collections books to facilitate their ongoing use, but “the repair of special and general collection materials were seen as different, with old and rare books the specific concern of experienced binders and restorers, and everything else subject to [expedient] in-house repair methods.”

Ironically, however, modern books tend not only to be more inherently fragile than earlier books—because of the increased mechanization of book production...
processes—but also are typically subjected to more frequent and less supervised use, ensuring that general collections incur more extensive damage than special collections.

Transforming repair practices in general collections required a new set of skills and approach. In a 1983 symposium on conservation training, Banks addressed the difficulty of caring for large collections, which tended to exhibit the “whole spectrum of artificial values, ranging from none to almost total,” and advocated for a new type of conservator, the “collections conservator, whose charge and training would be in technological and engineering approaches to collections care, including housing, storage, environment, and in mass treatment.” The term caught on quickly; Merrill-Oldham and Schrock note that by the 1980s “the term ‘collections conservation’ was in standard use in the profession to describe the programmatic application of conservation principles to general research materials—which are invaluable in the aggregate, but do not warrant the item-by-item documentation and optimum treatment given to special collections.”

A watershed in the development of practices and standards for general collections treatment was the establishment of the Library Collections Conservation Discussion Group (LCCDG) within AIC’s Book and Paper Group in 1992. Founded by Maria Grandinette and Randy Silverman, LCCDG strove to “foster improvements in the management and implementation of conservation programs for non-rare library collections.” Bringing together individuals responsible for the treatment of rare and nonrare materials in research libraries, LCCDG sparked spirited discussions and show-and-tell sessions that resulted in the proliferation of techniques that could be applied or adapted to the particular challenges of general collections. The large numbers of general collections books in need of repair and the relatively heavy use to which they were subjected demanded a new approach characterized by “batch processing, cost-effectiveness, and highly organized workflow.” Meanwhile, a new crop of book repair guides and training programs had emerged, helping to standardize treatment practices for general collections.

Of the treatments newly promoted via LCCDG during this period, Grandinette and Silverman noted that “when faced with damaged [nonrare] eighteenth- and nineteenth-century leather bindings, conservators were beginning to freely employ” newer treatments that could be used for both special and general collections. A variety of board reattachment methods in particular received a great deal of attention in the literature and at conferences, and adaptations of historical structures such as the lapped case binding and limp paper case bindings were similarly promoted. Also during this period, LCCDG raised awareness of the need to conserve early cloth publishers’ bindings, which, while often housed in general collections, were increasingly valued as artifacts. Efforts such as Silverman and Grandinette’s “Checklist of Primary Bibliographical Evidence Contained in Nineteenth and Early Twentieth-Century Publishers’ Bookbindings” and Allen’s popular class (Publishers’ Bookbindings, 1830–1910) at the University of Virginia’s Rare Book School, have produced consensus that the decorative covers of early cloth bindings hold significant value and merit preservation.

Since 1997, the distinctions between special and general collections treatment practices have blurred further as the field shows signs of moving beyond separate approaches to treatment (i.e., special versus general collections) toward a more nuanced methodology. In 1999 Frost reported on the move toward a more holistic model at the University of Iowa, where special and general collections treatment facilities were being physically integrated. Questioning why “we have this partitioning of book repair,” Frost asked whether “an integrated approach . . . would improve service overall.” Noting that conservation practitioners in both special and general collections arenas have grappled with exceptions—items falling somewhere between a rare book and a nonrare book—Frost advocated “a middle zone of conservation practice . . . [in which] the ‘exception’ category now appears key to a seamless, integrated book repair service.” Campagnolo, in his 2005 study of European book repair practices for “modern” (i.e., general) collections, noted that newer treatments are often “less invasive to the books and . . . came to bridge the gap between special collections item-based conservation, and circulating collections batch-based conservation.” As evidence that such a shift may be occurring, a 2004 survey of U.S. conservators found that hybrid conservator positions—those involved with both special and general collections—have become increasingly common.

Expanding on this trend to bridge the gap between special and general collections practices, in 2006 Pilette promoted a customizable approach to specifying preservation activity characterized as a “continuum of care,” wherein a wide range of approaches are selectively applied, dependent upon various selection criteria.

Prior Surveys of Conservation Treatment Methods

The authors explored the literature to identify surveys of book conservation treatment practices in research libraries. The ARL has collected and published annual preservation statistics for its member libraries, including quantities of books receiving in-house treatment since 1984. While useful for broad comparisons of program size and productivity levels, these statistics do not address the types of treatments employed; rather, book treatment “levels” are delineated only by time required per treatment. Kenny and Stam's 2002
report, *The State of Preservation Programs in American College and Research Libraries*, provides treatment statistics for non–ARL as well as ARL libraries; however, mirroring ARL’s reporting method, the report provides no detail about specific treatment techniques.\(^{30}\)

Many published condition surveys provide information about the physical state of collections and their general conservation needs.\(^{30}\) While some, such as Evans’s item-by-item review of the Duke Humfrey Library, specify particular treatment practices that might be used to respond to damage identified by the survey, condition surveys focus on the condition of collections and do not provide information about treatments performed.\(^{31}\)

Preservation assessments, which include “surveys of the building, environment, security features, the physical condition of the stock, conservation needs of items, and the history of collections,” sometimes incorporate a general question or two about treatment techniques.\(^{32}\) Although most focus on a single institution, a few aim to capture broader trends, including two such studies in archival contexts: Conway’s 1988–89 survey of archival repositories gathered information about basic treatment activities relevant to archives, such as deacidification, dry cleaning, encapsulation, and basic repair, and Walters and Hanthorn’s 1995 survey of ARL repositories of archives and manuscripts, repeated in 2006 by De Stefano and Walters, gathered information about seven classes of treatments, including basic repair, deacidification, and encapsulation.\(^{33}\) Turpening performed a similar study of law libraries in 2000–2001, with one question about in-house repair that inquired about seven types of treatments: tip-ins, paper repair with archival tape, hinge tightenings, spine repair, hinge and joint repair, rebacking or recasing of cloth bindings, and paperback reinforcement.\(^{34}\) Similarly, Olatokun’s 2007 survey of fifteen Nigerian university libraries included one question on “preservation and conservation techniques” that inquired about techniques such as lamination, deacidification, and binding.\(^{35}\) While useful as broader preservation assessments, these surveys did not provide significant detail about book treatment practices.

Two reports of surveys focusing on book treatment practices in research libraries pertain only to general collections. Keyes’s 1996 survey addressed eleven repairs typical of small general collections book repair operations, as well as the materials (e.g., papers, board, and adhesive) employed for repairs.\(^{36}\) Keyes’s survey was announced via e-mail on the Conservation Distribution List. Ninety-six libraries responded, representing university libraries (43.8 percent), college libraries (30.2 percent), research institutions (13.5 percent), special libraries (7.5 percent), and public libraries (5.2 percent). Campagnolo’s 2005 study of European repair practices for “modern” collections was more comprehensive, studying thirty-seven treatment techniques.\(^{37}\) Campagnolo delivered the survey in paper and CD-ROM formats to European libraries, with fifty-three libraries responding. His study and analysis focused on the relative lack of conservation attention given to “modern” collections in Europe, arguing that treatment techniques routinely employed in the United States for general and “medium rare” collections should be adopted in Europe.

**Survey Method**

**Survey Goals and Scope**

The authors designed a survey to study the treatment techniques performed on bound materials in both special and general collections in research libraries and to shed light on the following questions:

- What constitutes the “standard toolbox” of book conservation treatments for special and general collections at the beginning of the twenty-first century?
- Are the same types of treatments employed for special collections as general collections?
- Which treatments are applied similarly in both contexts?
- Which are more common to one context than the other?

**Survey Design**

The authors used SurveyGizmo, a Web-based survey tool, to present the survey. This tool was selected for its enhanced facilitation of survey distribution and participation and its sophisticated functionality—such as “dynamic page logic,” which triggers specific questions on the basis of prior answers—that enables customization and a shorter and less complex experience for the respondent. In addition, the authors anticipated that electronic survey notification and participation would allow the survey to reach a broad audience and that a well-designed Web-based survey would attract and hold the interest of respondents, thereby providing a good response rate.

The survey instrument was composed of four sections: audience definition and participation disclaimer, demographic questionnaire, treatment questionnaires, and request for follow-up information (see appendix A for the full survey).

To ensure the survey’s relevance to both special and general collections practitioners and to permit a comparison of practices, the questionnaires pertaining to special and to general collections treatment practices (pages 4–5 of the survey) were identical, containing fifty-five treatments in six categories that the authors felt could be applied to bound materials in either a special or general collections setting.
also concerned that a focus on specific quantities or potentially cumbersome for the respondent. The authors "monthly," "yearly," or "never" were overly specific and options, the authors considered and tested many possibilities from a set of response options. In developing the response years their facility applied each treatment by selecting respondents to identify how routinely during the past three treatments performed on bound materials. The survey design enabled respondents to provide treatment information for only special collections treatment, only general collections treatment, or both, as appropriate to their job responsibilities. Newer techniques recently featured in the literature or at conferences, such as board reattachments, were well represented in the questionnaires to gauge the extent to which such techniques have been adopted.

The selection of treatments for inclusion in the survey was complicated by the lack of standardized book conservation and repair terminology, a problem noted by Campagnolo in his survey of European book conservation practices. Even where relatively standard treatment definitions exist, the authors often found many possible variations of a given treatment. Although the authors determined that the survey could not address minor variations in treatment protocol, they deployed descriptive names to distinguish the crucial elements of each treatment and, where necessary, they provided concise definitions (see appendix B).

For each of the fifty-five treatments, the survey asked respondents to identify how routinely during the past three years their facility applied each treatment by selecting from a set of response options. In developing the response options, the authors considered and tested many possibilities. Seemingly straightforward options such as "frequently," "occasionally," "rarely," or "never" proved too vague and indefinable, while more quantitative terms such as "weekly," "monthly," "yearly," or "never" were overly specific and potentially cumbersome for the respondent. The authors also were concerned that a focus on specific quantities or frequencies—as opposed to standard practices—might overemphasize the work of larger, more productive labs at the expense of smaller, less productive labs. Likewise, it might obscure the work of special collections labs, which tend to treat fewer items than general collections facilities. The survey ultimately included a set of five treatment response options: (1) protective enclosures and book jackets, (2) binding reinforcements, (3) minor paper treatments and textblock repairs, (4) board reattachment methods, (5) other binding repair and rebinding techniques, and (6) advanced paper treatments performed on bound materials. The survey results that follow are therefore limited to book conservation practices in the United States.

Survey Results

Demographic Characteristics

Seventy-three respondents from research libraries in the United States fully completed the survey. Although an additional six respondents from non-U.S. research libraries also completed the survey, the authors excluded the non-U.S. data because of the insufficient rate of response. All references to the survey respondents, data set, and reported results that follow are therefore limited to book conservation practices in the United States.

The survey sample was relatively diverse in terms of the demographic characteristics of respondents. A majority of respondents (59 percent) held positions with hybrid responsibilities involving special and general collections, while the remainder was split nearly evenly between those working only with special collections (19 percent) and those working only with general collections (22 percent). The seventy-three respondents provided a total of 116 treatment cases, because the forty-three hybrid respondents were asked to complete two treatment questionnaires, one for each type of collection, while the remaining thirty respondents completed one questionnaire each. The completed treatment questionnaires split nearly evenly between special collections and general collections, fifty-seven and fifty-nine, respectively (table 1).
The survey respondents were diverse in terms of the size of institutions represented, dividing fairly evenly into large libraries with more than 5 million volumes, mid-size libraries with 2–5 million volumes, and smaller libraries with less than 2 million volumes. A large majority of respondents (81 percent) reported working for an ARL library, while 19 percent were from non-ARL libraries. With respect to their conservation facilities, 66 percent work in a centralized—or hybrid—facility and 44 percent work in a facility that was built or renovated since 2000 (table 2).

Data pertaining to the type of facility and its most recent renovation date confirmed a marked trend toward centralized facilities; of those working at facilities built or renovated since 2000, 75 percent work in a centralized or hybrid facility (figure 1).

### Treatment Practices

The authors compiled and graphed the collected data pertaining to treatment practices, comparing treatments employed for special collections with those employed for general collections (figure 2). Each treatment was classified—once for special collections and again for general collections—as either “standard practice,” “moderate use,” or “low use.” A treatment was designated “standard practice” when it was reported as “standard practice, frequent” or “standard practice, occasional” by 50 percent or more of the conservation units represented by the...
Identifying Standard Practices in Research Library Book Conservation

Data. Treatments reported as standard practice by 25 to 49 percent of conservation units were designated “moderate use,” while the remaining treatments—those considered standard practice by fewer than 25 percent of units—were designated “low use.” Further discussion of the data, organized by category of treatment, follows.

Protective Enclosures and Book Jackets

“Protective enclosures” was one of the more popular treatment categories; eight of the ten treatments qualified as either “standard practice” or “moderate use” in both the special and general collections contexts. Only two enclosures were classified as “low use”: CoLibri book jacket and leather clamshell box.

Overall, treatments in this category were more commonly considered standard practice for special collections than for general collections. This difference in practice was most pronounced for cloth clamshell box, which was reported as standard practice for special collections at a significantly higher rate than for general collections (a change of ∆37 percentage points). Four additional enclosures were found to be significantly more common to special collections: corrugated board box (∆26 percent points), polyester sleeve or encapsulation (∆23 percent points), polyester book jacket (∆17 percent points), and tuxedo box (Δ16 percent points).

Binding Reinforcements

“Binding reinforcements” was one of the least common categories. Only one treatment—sewn pamphlet binding—qualified as “standard practice” for both special and general collections.

All treatments in this category were reported as standard practice more commonly for general
collections than for special collections. The difference was most notable for stapled pamphlet (Δ 39 percent points), sewn pamphlet (Δ 21 percent points), and adhesive pamphlet (Δ 15 percent points).

Minor Paper Treatments and Textblock Repairs

“Minor paper treatments and textblock repairs” was by far the most common category of treatment overall, with ten of the eleven treatments qualifying as “standard practice” for general collections, and seven for special collections. It is one of just two categories that were more common overall to general collections than to special collections.

Results in this category were remarkably similar for special and general collections, with the exception of four treatments that were reported as standard practice for general collections at a significantly higher percentage than for special collections: photocopied replacement pages (Δ 67 percent points), mending with “archival” tape (Δ 49 percent points), tipped-on endsheets (Δ 28 percent points), and heat-set tissue mending (Δ 22 percent points).

Board Reattachment Methods

Along with “binding reinforcements,” “board reattaches” was one of the two least popular categories overall, which may be surprising given the attention these repairs have received in recent literature. Only one treatment, Japanese paper board reattachment, qualified as “standard practice” for both special and general collections. Toning paper with acrylics, a technique associated with certain board reattachment treatments, qualified as “standard practice” for special collections and “moderate use” for general collections. In the special collections context, the data reflect “moderate use” of two additional treatments: partial cloth hinge and new slips.

The data indicate that all board reattachment methods are more common to special collections than general collections. The gap was moderate and fairly consistent (difference of 7 to 24 percent) for all board reattaches, with three treatments exhibiting the most notable difference: toning Japanese paper (Δ 24 percent points), partial cloth hinge (Δ 22 percent points), and new slips (Δ 16 percent points).

Other Binding Repair and Rebinding Techniques

The “binding repair and rebinding” category contains a mix of “standard practice,” “moderate use,” and “low use” treatments. Five of the sixteen treatments qualified as “standard practice” for both special and general collections: recase, new case, cloth reback, lifting endsheets, and consolidating leather with Klucel G (hydroxypropyl cellulose). In addition, double-fan adhesive binding qualified as “standard practice” for general collections, while three techniques qualified as “standard practice” for special collections: Japanese paper reback, hollow tube or v-hinge spine repair, and dyeing cloth with acrylics.

All treatments in this category were more common to special collections than to general collections, except for four treatments that were significantly more common to general collections: cloth reback (Δ 23 percent points) and the three conventional case binding styles—double-fan adhesive binding (Δ 38 percent points), new case (Δ 23 percent points), and recase (Δ 21 percent points). Variations on such treatments, on the other hand, were found to be more common to special collections. Examples include the lapped case variant and limp case structures, as well as rebacks employing leather or Japanese paper instead of cloth.

Techniques that could be considered a treatment option rather than a stand-alone repair (e.g., lifting endsheets, dyeing leather or cloth, and consolidating leather) also were more common to special collections than to general collections. This gap was most significant for dyeing cloth with acrylics (Δ 31 percent points), dyeing leather with leather dyes (Δ 26 percent points), and consolidating leather with Klucel G (Δ 20 percent points).

Advanced Paper Treatments Performed on Bound Materials

The “advanced paper treatments” category contains a mix of “standard practice,” “moderate use,” and “low use” treatments. Dry cleaning was extremely common to both special and general collections. The three forms of tape, adhesive, and stain removal—heat, water, and solvents—qualified as “standard practice” for both types of collections with the exception of solvent use for general collections.

The aqueous washing, alkalization, and deacidification treatments were less commonly employed overall. All were “low use” for general collections, but in the special collections context, aqueous washing qualified as “standard practice” and Bookkeeper as “moderate use.”

All treatments in this category were more common to special collections than to general collections; most notably aqueous washing or alkalization (Δ 38 percent points); in-house Bookkeeper deacidification (Δ 18 points); and the removal of tape or stains using solvents (Δ 19 percent points), water (Δ 18 percent difference), or heat (Δ 18 percent points).

Discussion

The data from this survey indicate that treatment practices for special and general collections are more similar than different; practices fell into the same classification (i.e.,
“standard practice,” “moderate use,” or “low use”) for thirty-two (58 percent) of the fifty-five treatments. Furthermore, just twelve treatments (22 percent) showed a difference of 25 percent or more with respect to the percentage of respondents in each context who reported the treatment as standard practice in their conservation unit.

The diversity of practices documented by this study suggests, however, that an overwhelmingly uniform application of techniques across research library conservation units does not exist. Although approximately half of the fifty-five treatments addressed by this study qualified as “standard practice”—thirty treatments (55 percent) in the special collections context and twenty-five treatments (45 percent) in the general collections context—relatively few treatments did so overwhelmingly. Treatments identified as standard practice by 75 percent or more units were relatively few—ten treatments (18 percent) each for special and general collections (table 3).

Greater consensus exists with respect to very rarely used treatments (i.e., those classified as “low use” in this study), of which there were fifteen (27 percent) for special collections and twenty (36 percent) for general collections. Approximately half of the treatments fell into the remaining “middle ground”—treatments identified as standard practice by 25 to 74 percent of respondents—of which there were thirty (55 percent) for special collections and twenty-five (45 percent) for general collections. Such differing levels of adoption of the fifty-five treatments studied may be because of differences in education and training and because of varying institutional contexts (e.g., limited demand for certain treatments; the nature of collections; institutional tendency to outsource certain treatment needs; or a lack of staff, equipment, or facilities to perform certain treatments).

The results also indicate that many of the newer techniques featured in conference presentations and in print over the last thirty years—such as board reattachment methods, lapped case bindings, and limp paper case bindings—have not been adopted as standard practice en masse, with a few notable exceptions (e.g., Japanese paper board reattachment). Perhaps these treatments have not been widely adopted because not enough time has lapsed for them to become well known, or perhaps they have not been promoted widely enough. The relative demand for such treatments also may not be significant in many libraries.

**Error Analysis**

Although the authors were pleased with the level of survey participation, the data gleaned from the seventy-three U.S. respondents may not be fully representative of book conservation and repair practices in U.S. research libraries in 2007. Potential drawbacks associated with Web-based surveys include the inability to be confident that the entire population has been reached and, as with paper surveys, the difficulty of determining what nonresponse—or failure to participate in the survey—means. Potential scenarios where members of the population were not notified or failed to respond include libraries lacking preservation or conservation professionals who monitor online discussion groups and may not have received the survey announcement, some conservation or repair practitioners who may have been uninterested or felt unqualified to participate, and unreported technical difficulties with the survey or Internet that may have resulted in failed response attempts.

The survey sample was self-selecting, comprising only those who received the invitation and chose to participate. The resulting data should be regarded as respondents’ perceptions about treatment practice, which might not fully represent reality. Although the anonymity of the survey may have led to more honest responses, it also might have enabled some respondents to report inflated practices on the basis of aspirations rather than actual practice.

**The Survey Instrument**

Despite the extensive efforts to research, design, test, and implement a streamlined and user-friendly survey, several potential sources of error may be associated with the survey instrument. The list of treatments in the survey may not have been recognizable to all respondents; however, available evidence suggests the list was sufficiently comprehensible and comprehensive to most survey participants because very few respondents listed treatments in the open-ended text fields provided for the specification of other treatments; those treatments that were listed showed little commonality. Although one treatment was specified by more than two facilities for special collections use (custom boxes for unusual items), and three treatments were specified by more than two facilities for general collections use (portfolio boxes, hinge tightening, and Kapco self-adhesive book covers), no treatments were specified more than once for both special and general collections use.

The data pertaining to other treatments indicate, however, that while the survey instructed respondents to limit responses to treatments applied to bound materials, some misreporting occurred of treatments pertaining to nonbound materials, such as “humidification of rolled documents,” “mats for art on paper,” and “slip cases for music CD sets.” With this in mind, the authors reviewed the data and noted in particular the high rate in which polyester sleeve/encapsulation was reported as “standard practice” (58 percent for special collections and 64 percent for general collections) and, in the general collections context, solvents for tape, adhesive, or stain removal were reported as “moderate use.” Finally, some facilities represented by the data may not
perform certain activities, such as pamphlet binding or boxing. Such work might instead be vended out or performed by other library units. For example, one respondent used the “other minor paper treatments and textblock repairs” field to explain that his or her library “has a binding unit [that handles] most of this type of repair work.” The survey was not designed to capture treatment work performed outside of the conservation or repair unit proper.

Response Rate

The survey sample was self-selecting, as opposed to random or comprehensive. Anonymous surveys, while potentially promoting more candid responses, do not enable the validation of respondents’ suitability to participate or the invalidation of duplicate responses from an individual or facility. That the majority of respondents (59, or 81 percent) voluntarily provided contact information suggests that a repetition of responses from individuals or facilities was not a significant problem. The contact information obtained reveals five instances of potential duplication; however, several of these appear to represent distinct treatment facilities or separate research libraries within a large single institution, and therefore may not represent duplicate data.

To evaluate the validity of the survey’s seventy-three responses, the total target population must be known or estimated. The authors defined the target audience as “the individual(s) with primary responsibility for book conservation and/or repair” in research libraries, permitting “institutions with multiple conservation/repair units [to] respond once for the entire institution or individually for each unit” (see appendix A). Excluding the non-U.S. component, the size of the target population is therefore the number of research library book conservation and repair units in the United States. Although the quantity of U.S. research libraries can be readily estimated, the number of conservation repair units maintained by those institutions is a more elusive figure.

The authors’ estimate of the number of research libraries in the United States is 249, encompassing the U.S. institutional membership of five North American research library groups. The ARL (www.arl.org) is the largest such group, with its 108 member libraries in the United States; the smallest is the Independent Research Libraries Association (http://irla.lindahall.org) of independent, privately supported research libraries, with eighteen U.S. member libraries. The remaining three groups are the categories of non-ARL U.S. research libraries identified by Kenney and Stam: the University Libraries Group (ULG; www.lehigh.edu/~inulg) of mid-size U.S. university libraries, the Oberlin Group (www.oberlingroup.org) of selective U.S. liberal arts colleges, and the major non-ARL land grant institutions.40 There are currently eighty Oberlin Group libraries, twenty-three ULG libraries, and, for the non-ARL land-grant institutions, Kenney and Stam’s figure of twenty libraries is assumed.

The percentage of these roughly 249 research libraries in the United States with conservation or repair units is more difficult to estimate. The authors assumed, however, that the vast majority of ARL libraries have a conservation or repair unit; for 2005–6 (the most current ARL Preservation Statistics available), 108 (88 percent) of the 123 libraries contributing to the ARL statistics program reported in-house book conservation treatment activity.41 While some of the very large ARL libraries, such as the Library of Congress and Harvard University Libraries, are known to have multiple conservation units, the authors know of very few ARL libraries that have similarly expansive conservation operations.
Many of the non-ARL libraries, on the other hand, may be lacking identifiable conservation units that would be positioned to respond to a survey of treatment practices. Kenney and Stam contrasted median treatments per institution from their study with ARL data for 2000–2001 and concluded that for non-ARL land grant and Oberlin Group libraries, “hands-on repair and conservation treatments are not a significant activity.” On average, ULG libraries treat 10 percent of the number of volumes treated by ARL libraries, while non-ARL major land grant and Oberlin Group libraries treat just 1 percent. Looking at that study, treatment activity in most of these institutions appears to be low to nonexistent.

Using these estimates and analysis, the authors suggest that the population of research library book conservation and repair units in the United States is no greater than 249 and is very likely significantly lower. Assuming the generous estimate of 249 research library conservation units yields a conservative survey response rate of 29 percent.

### Conclusion and Recommendations

This survey represents a first effort to establish a method for specifying the “standard toolbox” of treatments for special and general collections in the twenty-first century, and it establishes baseline data for subsequent comparisons. While new treatment techniques are documented regularly in the literature and at conferences, the results of this study are unique in that they provide a quantitative synopsis of how book conservation is actually practiced in research libraries. The results may be useful in a variety of contexts. For example, the study’s designation of “standard practice,” “moderate use,” and “low use” treatments can inform practitioners, administrators, and those in related fields by facilitating peer-to-peer benchmarking of current practices. The data also provide insight into the field’s adaptation of newer and more effective treatments, and may therefore suggest areas for further professional development.

The results of this study point to the need for a more current and comprehensive manual of conservation treatment practices to document best practices for research libraries. In the late 1990s, AIC’s Book and Paper Group (BPG) convened a working group to develop a manual for book conservation treatment analogous to the indispensable *Paper Conservation Catalog*. The wiki-based approach being explored by the AIC BGP has the potential to facilitate broad involvement and result in a rich source of information on book conservation treatment that could begin to simultaneously mirror, and thereby help to reconcile, actual and best practices for book conservation and repair. In the absence of such a dynamic mechanism for conveying and receiving information about book conservation practices, the treatment names and definitions developed in this study can aid in codifying practice through the specification of a core group of book conservation treatment techniques employed by many research libraries. A follow-up study in five to ten years using a similar protocol would enable a more dynamic analysis of trends in research library book treatment practices.

The authors plan further analysis of the data gathered in this study to explore relationships between the demographic data—i.e., type of practitioner, practitioner training, library size, and type of conservation facility—and reported treatment practices. Such a study could explore the reasons for the differing levels of adoption of many treatments as well as the reasons for the relatively limited adoption of many of the newer, well-promoted treatments.

### References and Notes


4. Ibid., 17.


6. Ibid., 37.


12. Darling and Ogden, “From Problems Perceived.”


15. Paul N. Banks, “A Library is Not a Museum,” in *Training in


24. Ibid., 2.


38. Ibid.
Appendix A. Survey Instrument

Book Conservation and Repair in Research Libraries

Thank you for your interest!

Your participation in this 10 to 20 minute survey will help document current practices and trends in research library book conservation and repair. The survey results will be widely disseminated.

This survey should be completed by the individual(s) with primary responsibility for book conservation and/or repair. Institutions with multiple conservation/repair units may respond once for the entire institution or individually for each unit.

Survey Disclaimer

Because our institutions are concerned about protecting human subjects participating in research, this information is provided to help you to decide whether you wish to participate in this study.

This study is being conducted to document current book conservation treatment practices in research libraries. Participation in the study entails completion of a questionnaire, which should take approximately 10 to 20 minutes to complete and should cause no more discomfort than you might experience in everyday life. Although participation may not benefit you directly, we believe the information obtained from this study will help the field of conservation better understand its current practices. Your participation is solicited and encouraged, but is strictly voluntary and if you agree to participate you remain free to withdraw at any time without penalty. Your name will not be associated in any way with the research findings; however, given the limitations of Internet communications, it is possible that by intent or accident someone other than the intended recipient may see your response.

The University of Kansas Human Subjects Committee found this research project to be in compliance with all of the requirements and policies in place for protection of human subjects in research. Approval to proceed with the project for a one year period was granted on June 13, 2007. For additional information concerning this study, please feel free to contact us at any time. Completion of the survey indicates your willingness to participate in this research and that you are at least age eighteen.

Sincerely,

Liz Dube and Whitney Baker

Please Briefly Describe Yourself and Your Institution

Institution size

- Less than 2 million volumes
- 2–3 million volumes
- 3–5 million volumes
- More than 5 million volumes

Institution type

- U.S. research library that is a member of ARL (Association of Research Libraries)
- U.S. non-ARL research library
- Non-U.S. research Library: Please specify the country in which your library is located:

Your job title: __________________________________________

Which functions do you manage and/or participate in? (select all that apply)

- General collections conservation/repair
- Special collections conservation
How much of your position is dedicated to managing and/or participating in these activities?

- 75% or more
- 50–74%
- 25–49%
- less than 25%

Which best describes your institution’s conservation/repair facilities?

- Our sole facility serves the general collections.
- Our sole facility serves the special collections.
- Our sole facility serves both special and general collections (may contain spaces, equipment and/or staff dedicated solely to special or general collections).
- We have separate/distinct facilities for special and general collections.
- Other: ________________________________________________________________________

How recently was your in-house conservation/repair facility built or last significantly renovated?

- 2000s
- 1990s
- 1980s
- Pre–1980
- N/A

How did you acquire your conservation knowledge and skills? (select all that apply)

- Conservation apprenticeship
- Graduate degree/certificate in conservation
- Other graduate coursework
- On-the-job training or experience
- Workshops/training sessions
- Professional association meetings
- Self-study (books, online resources, etc.)
- Other: ________________________________________

How many conservation-related workshops and/or training sessions have you attended in the last ten years?

- 1–5
- 6–10
- more than 10

Special/General Collections Conservation

(While otherwise identical, page four of the survey applied to special collections and page five applied to general collections. For treatments whose names were not self-explanatory, definitions were accessible by scrolling over an “info” link adjacent to a treatment’s name. Fully clicking on the “info” link opened a new Web browser window with additional detail. See appendix B for treatment definitions.)

Taking into account the past three years, identify which of the techniques listed below are performed in-house on your [special/general] collections. Responses are categorized as follows:

- **Standard Practice, frequent**—Part of your laboratory’s established toolbox of techniques, executed routinely or with some regularity (as defined relative to overall production levels).
- **Standard Practice, occasional**—Part of your laboratory’s established toolbox of techniques, executed occasionally or rarely (as defined relative to overall production levels).
- **Anomalous**—Performed rarely and for exceptional reasons. Not considered standard practice.
- **Never**—Never performed (in the past three years).
- **Not sure**—Uncertain what this is and/or if it is performed in your facility.

List additional treatment techniques that your institution considers standard practice under “other.”
### Protective Enclosures

<table>
<thead>
<tr>
<th>Enclosure</th>
<th>Standard Practice, Frequent</th>
<th>Standard Practice, Occasional</th>
<th>Anomalous Use Only</th>
<th>Never</th>
<th>Not Sure</th>
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</thead>
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<tr>
<td>Polyester book jacket</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>CoLibri polyethylene book jacket</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Pocket, envelope, or 3- or 4-flap folder in pamphlet binder</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>3- or 4-flap “tuxedo” box (tongue &amp; slot closure)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>3- or 4-flap “phase” box (rivet &amp; string closure)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Corrugated board box</td>
<td>○</td>
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<tr>
<td>Cloth covered clamshell box</td>
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<tr>
<td>Leather covered clamshell box</td>
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<tr>
<td>Fitting books with custom-sized boxes purchased from a vendor</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Polyester sleeves and/or encapsulation</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Other protective enclosures and/or book jackets:

### Binding Reinforcements

<table>
<thead>
<tr>
<th>Reinforcement</th>
<th>Standard Practice, Frequent</th>
<th>Standard Practice, Occasional</th>
<th>Anomalous Use Only</th>
<th>Never</th>
<th>Not Sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pamphlet binding, adhesive attachment</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Pamphlet binding, staple through the fold</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Pamphlet binding, sew through the fold</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>Paperback stiffening</td>
<td>○</td>
<td>○</td>
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Other binding reinforcements:

### Minor Paper Treatments and Textblock Repairs

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Standard Practice, Frequent</th>
<th>Standard Practice, Occasional</th>
<th>Anomalous Use Only</th>
<th>Never</th>
<th>Not Sure</th>
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</thead>
<tbody>
<tr>
<td>Creating/inserting photocopy replacement pages</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Mending with “archival” tape (e.g., Filmoplast, Archival Aids)</td>
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<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Mending with heat set tissue</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Mending with Japanese paper &amp; paste</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Guarding sections with Japanese paper &amp; paste</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Resewing several sections</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
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</tr>
<tr>
<td>Sewing or resewing an entire volume</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>Barrier spine lining of Japanese paper &amp; paste</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>New tipped-on endsheets</td>
<td>○</td>
<td>○</td>
<td>○</td>
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### Minor Paper Treatments and Textblock Repairs (cont.)

<table>
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<tr>
<th>Procedure</th>
<th>Standard Practice, Frequent</th>
<th>Standard Practice, Occasional</th>
<th>Anomalous Use Only</th>
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<tr>
<td>New sewn-through-the-fold endsheets</td>
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<td>○</td>
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<tr>
<td>Other minor paper treatments and textblock repairs:</td>
<td></td>
<td></td>
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### Board Reattachment Methods

<table>
<thead>
<tr>
<th>Method</th>
<th>Standard Practice, Frequent</th>
<th>Standard Practice, Occasional</th>
<th>Anomalous Use Only</th>
<th>Never</th>
<th>Not Sure</th>
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</thead>
<tbody>
<tr>
<td>Joint tacketing (Espinosa)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Japanese paper board reattachment (Etherington)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Toning Japanese paper with acrylics for board reattachment or binding repair</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Solvent set tissue board reattachment (Anderson &amp; Puglia)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Board slotting (Clarkson)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Partial cloth hinge (Brock)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>New slips</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Other board reattachment methods:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Other Binding Repair and Rebinding Techniques

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Standard Practice, Frequent</th>
<th>Standard Practice, Occasional</th>
<th>Anomalous Use Only</th>
<th>Never</th>
<th>Not Sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Recase”</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>“New case”</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Lapped case/Bradel binding</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>New limp vellum and/or limp paper case binding</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Cloth “reback”</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Leather “reback”</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Japanese paper “reback”</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Reattaching detached spines with a hollow tube or v-hinge</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Lifting endsheets to save original pastedown endsheets</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Dyeing cloth with acrylics for binding repairs</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Dyeing leather with leather dye for binding repairs</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Consolidating leather with Klucel-G</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Sewn boards binding (Frost)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Other Binding Repair and Rebinding Techniques (cont.)

<table>
<thead>
<tr>
<th>Technique</th>
<th>Standard Practice, Frequent</th>
<th>Standard Practice, Occasional</th>
<th>Anomalous Use Only</th>
<th>Never</th>
<th>Not Sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Split board binding</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>“Treatment 305” (Baird &amp; LeTourneaux)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Double-fan adhesive binding</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Other binding repair and rebinding techniques:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Advanced Paper Treatments Performed on Books/Bound Volumes

<table>
<thead>
<tr>
<th>Technique</th>
<th>Standard Practice, Frequent</th>
<th>Standard Practice, Occasional</th>
<th>Anomalous Use Only</th>
<th>Never</th>
<th>Not Sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aqueous washing/alkalization</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Bookkeeper deacidification (in-house)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Wei T’o deacidification</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Tape/adhesive removal using heat</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Tape/adhesive/stain removal using water (e.g., methyl cellulose)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Tape/adhesive/stain removal using other solvents</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Dry cleaning with vinyl erasers and/or vinyl eraser crumbs</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Other advanced paper treatments:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Follow-up

Would you be willing to participate in a brief follow-up survey in a couple of months, if needed?

○ Yes  ○ No

If yes, contact information:
Name: ____________________________
E-mail Address: ______________________

Your survey has been submitted. Thank you for your participation!
### Appendix B. Treatment Names and Definitions

The survey provided the following definitions, via pop-up text, for the twenty-five treatments whose names were deemed insufficiently self-explanatory.

<table>
<thead>
<tr>
<th>Treatment name</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyester book jacket</td>
<td>A nonadhesive, custom-fitted book jacket made of clear polyester film (e.g., Mylar).</td>
</tr>
<tr>
<td>Polyester sleeve/encapsulation</td>
<td>Encapsulating paper in polyester (e.g., Mylar) and/or using prefabricated polyester sleeves (where one or more edges may remain unsealed).</td>
</tr>
<tr>
<td>Paperback stiffening</td>
<td>Adhering a thin board to the inside cover of a paperback binding. The inner hinge also may be reinforced with cloth, paper, or Tyvek.</td>
</tr>
<tr>
<td>Heat set tissue mending</td>
<td>A thin, acrylic-coated tissue applied with a heated tool.</td>
</tr>
<tr>
<td>New hinged on end sheets</td>
<td>Endsheets that are attached using a hinge of Japanese paper adhered to the spine.</td>
</tr>
<tr>
<td>Joint tacketing</td>
<td>A board reattachment technique wherein thread is laced through holes piercing the book's shoulder and through corresponding holes in the boards.</td>
</tr>
<tr>
<td>Japanese paper board reattachment</td>
<td>A board reattachment technique wherein Japanese paper is adhered along the inner and outer joints.</td>
</tr>
<tr>
<td>Solvent set tissue board reattachment</td>
<td>A variant Japanese paper board reattachment technique employing solvent-set tissue impregnated with an isopropanol-activated acrylic adhesive.</td>
</tr>
<tr>
<td>Board slotting</td>
<td>A board reattachment technique using specialized equipment to create an angled slot in the edge of the board for a cloth spine lining hinge.</td>
</tr>
<tr>
<td>Partial cloth hinge</td>
<td>A board reattachment technique that minimizes spine disruption by employing limited sections of cloth spine lining/hinges, typically at the head and tail.</td>
</tr>
<tr>
<td>New slips</td>
<td>Using new thread (and sometimes cords or tapes) to create new board attachment slips at one or more sewing station.</td>
</tr>
<tr>
<td>&quot;Recase&quot;</td>
<td>A rebinding using the original case binding and new endpapers.</td>
</tr>
<tr>
<td>&quot;New case&quot;</td>
<td>A rebinding using a newly constructed case binding (may include retaining parts of the original cloth, such as onlaying the original spine title).</td>
</tr>
<tr>
<td>Lapped case/Bradel binding</td>
<td>A variant case binding in which the boards are attached to each other with cloth or paper, creating a &quot;flexible spine inlay&quot; prior to covering.</td>
</tr>
<tr>
<td>New limp vellum/paper case binding</td>
<td>A generally nonadhesive limp paper/parchment cover with a textblock typically sewn on supports that are laced into the cover.</td>
</tr>
<tr>
<td>Cloth &quot;reback&quot;</td>
<td>Spine replacement using new cloth.</td>
</tr>
<tr>
<td>Leather &quot;reback&quot;</td>
<td>Spine replacement using new leather.</td>
</tr>
<tr>
<td>Sewn boards binding</td>
<td>An early coptic adaptation in which the boards, typically folios of mat board, are sewn with the textblock. Cloth/paper coverings use minimal adhesive.</td>
</tr>
<tr>
<td>Split board binding</td>
<td>An in-boards binding repair in which new boards are constructed as laminates, with the hinge and sewing supports sandwiched between layers of board.</td>
</tr>
<tr>
<td>Treatment 305</td>
<td>A tight joint binding repair wherein new boards are attached with a cloth spine lining adhered to (and sometimes inset in) the outside of the boards. The covering cloth may be dyed to approximate leather.</td>
</tr>
<tr>
<td>Aqueous washing/alkalization</td>
<td>Removing acidic products by bathing paper in water. Alkaline chemicals may be employed to deposit an alkaline reserve in the paper.</td>
</tr>
<tr>
<td>Bookkeeper deacidification</td>
<td>A commercial product sprayed onto paper to slow acidic degradation processes.</td>
</tr>
<tr>
<td>Wei T'o deacidification</td>
<td>A commercial product sprayed or brushed onto paper to slow acidic degradation processes.</td>
</tr>
</tbody>
</table>
The Distributions of MARC Fields in Bibliographic Records

A Power Law Analysis

By Matthew Mayernik

Library catalog systems worldwide are based on collections of MARC records. New kinds of Functional Requirements for Bibliographic Records (FRBR)-based catalog retrieval systems, displays, and cataloging rules will build on ever-growing MARC record collections. Characterizing the kinds of information held in MARC records is thus an important step in developing new systems and rules. This study examined the incidence and prevalence rates of MARC fields in two different sets of library catalog records: a random selection of bibliographic records from the Library of Congress online catalog and a selection of records for two specific works, Lord of the Flies and Plato’s Republic. Analysis showed that most fields were used in only a small percentage of records, while a small number of fields were used in almost all records. Power law functions proved to be a good model for the observed distribution of MARC fields. The results of this study have implications for the design of new cataloging procedures as well as for the design of catalog interfaces that are based on the FRBR entity-relationship model.

MARC records are at the center of library cataloging processes. The MARC format, developed in the 1960s, is unlikely to be replaced in the foreseeable future, both because of its proven utility and because of the legacy volumes of existing MARC records held by libraries around the world. While the MARC format may not be going anywhere soon, the ways that MARC records are created and used are in a state of transition. Functional Requirements for Bibliographic Records (FRBR) outlined a conceptual model to describe the bibliographic universe. Implementing the FRBR model in MARC-based cataloging practices and information retrieval systems has proven challenging. Numerous technical, structural, and institutional challenges must be overcome for libraries to shift to FRBR-based cataloging schemes and online catalog displays. Any new methods for cataloging and displaying library resources will be built from the existing MARC record databases. Thus understanding the state of the current data stored in MARC records is essential to the process of moving forward with new display systems and cataloging schemes.

This study serves the effort to better understand these challenges by more fully characterizing the kinds of information that can be found in MARC records. Specifically, this study aims to identify and characterize the patterns in the ways catalogers use MARC fields in bibliographic records by quantifying which fields are most commonly present in library catalog records. The author used two different samples of bibliographic records in this study. First, a random selection of
bibliographic records from the Library of Congress (LC) online catalog were collected and examined. Second, a case study approach was used to analyze smaller samples of records from two specific works: William Golding’s *Lord of the Flies* and Plato’s *Republic*. This study tests whether a power law approach is useful in characterizing the distributions of MARC field in each sample and, if a power law distribution exists, what the implications are for the design of new FRBR–influenced cataloging schemes and catalog displays.

**Background**

This section describes the theoretical background for the analysis of MARC field use patterns reported in this study. First, the motivation and importance of the study is discussed, then power laws are introduced and described with the goal of illustrating how they can be used to model many phenomena both inside and outside of the library and information science domains.

**Motivation for This Study**

The motivation for a study of MARC fields in bibliographic records stems from the desire to understand the kinds of information that are available to build more informative displays into online library catalog interfaces. The deficiencies of online catalogs have been well documented. In separate studies, Calhoun and Markey pointed out how online catalogs have been slow to implement features that would greatly increase their utility, such as advanced retrieval techniques for subject searching, the inclusion of tables of contents, expanding the use of full-text searching, and leveraging classifications schemes as finding aids. Certainly libraries faced many impediments in producing advanced catalogs, including financial limitations and the reliance on integrated library system vendors who were unable or unwilling to produce these additional functionalities.

Online catalogs have largely lacked the ability to identify and display relationships between different works and between representations of the same work. Many different kinds of bibliographic relationships exist between library resources. Tillett identified seven types of relationships: equivalence, derivative, descriptive, whole-part, accompanying, sequential or chronological, and shared characteristic. Smiraglia created a taxonomy that expanded on Tillett’s derivative relationship and included seven categories: simultaneous derivations, successive derivations, translations, amplifications, extractions, adaptations, and performances. Bibliographic relationships between library resources are common. Smiraglia and Leazer found that approximately 30 percent of bibliographic works in the OCLC’s WorldCat have associated derivative works. These relationships are manifested in a number of ways in MARC records, including through uniform titles, series statements, and added entries. Despite this, most conventional library catalogs provide little in the way of collocation based on bibliographic relationships. Integrating these relationships into catalog displays would provide users with a significantly more powerful way to navigate through library resources.

**FRBR** is the most visible effort to give bibliographic relationships a more central role in modeling the bibliographic universe. FRBR describes a conceptual model that identifies four main bibliographic entities: works, expressions, manifestations, and items. The first three entities are abstract concepts while the fourth entity, the item, represents the physical resource that exists on a library shelf. The FRBR model has been criticized for having a lack of conceptual clarity in the distinctions between the abstract work, expression, and manifestation entities, and for glossing over important differences between books and nonbook materials. Despite these criticisms, the next generation cataloging code, Resource Description and Access (RDA), is integrating the FRBR entity-relationship model into the arrangement and implementation of the new cataloging rules.

**Power Laws in Library and Information Science**

This study uses power law functions to characterize the patterns of MARC field use in bibliographic records. A power law function is a mathematical expression that describes an inverse exponential relationship between two phenomena. Power laws are commonly illustrated through the “80/20 rule” of wealth and power, that is, 80 percent of the world’s resources are held by 20 percent of the world’s countries, or by the “long-tail” phenomena of marketing and consumption, where very few music or book titles sell a large number of copies and a great many titles sell very few copies. Power law functions have been used extensively in the library and information science literature. A study in 1995 showed that the individuals behind two of the classic bibliometric power laws, George Kingsley Zipf and Alfred J. Lotka, were at that time among the most cited people in the history of the discipline. Zipf’s and Lotka’s power laws provide similar formulations for different kinds of bibliometric phenomena. Zipf derived his law from a study of word counts in a selection of English language texts. He showed an inverse relationship between the number of times a word is used and its use rank with the set of all words used. So, if the most frequently used word was used one hundred times, the second most frequently used word was used roughly fifty times (one-half as many), the third most frequently used word was used roughly thirty-three times (one-third as many), and so on down the word list. Lotka, on the other hand, derived his law from a study of the publication productivity of individual authors within a corpus of chemistry and physics journals. Lotka found an inverse-square relationship between the number of publications by
each author and the number of authors with a given number of publications. In other words, if one hundred authors produced one published paper, the number of authors that produced two published papers was roughly twenty-five (one-fourth as many), the number of authors who produced three published papers was roughly eleven (one-ninth as many), and so on. The authorship and publication patterns of many disciplines, including the library and information sciences, have been shown to follow power law distributions.\textsuperscript{14}

Zipfian and Lotkaian distributions have been observed in a number of other library and information science settings. Power laws have been used to describe the forms of names on bibliographic records, the frequency of name headings in the library catalog, library resource circulation patterns, and the use of descriptor term co-occurrences in a bibliographic hypertext system.\textsuperscript{15} In 1990, Blair proposed that Zipf’s distribution of word use might be used as an indicator of indexing effectiveness.\textsuperscript{16} He suggested that the distribution of index term use should match distribution of word usage in documents. According to Blair, a match in term usage distributions would indicate that the indexers and users were using language in a similar fashion and thus bring the conceptions of document representation between the two groups closer together.

The scope of power law functions extend beyond the study of word counts and author productivity, however; power law relationships can be used to describe many natural and human phenomena, such as the size of cities, earthquakes, and forest fires. Newman described a number of theories proposed to explain the existence of power law forms in such a wide variety of phenomena.\textsuperscript{17} One of the most important physical mechanisms Newman identified as explaining the occurrence of power laws is the Yule process, better known as the “rich get richer” phenomena. The Yule process is named for the developer of the first mathematical description of this process, G. Udny Yule. The description of the Yule process for the population size of cities, which follows a power law distribution, is that new instances, in this case new people moving to a city, occur in proportion to the number of people already living in each city. In other words, large cities are much more likely to add new members than small cities or towns, leading to the situation that currently exists where there are very few cities with a very large population and a large number of cities with a small population. Similarly for book sales figures, book titles that have already sold large numbers of copies are much more likely to sell more copies, while titles with lower sales figures are less likely to sell additional copies. Newman described how it has been shown mathematically that this “rich get richer” process leads to power law distributions.

The present study extends the application of power law functions to a new area: the distribution of MARC fields in catalog records. The author was only able to find one work that explored the distribution of field use in MARC records. Markey and Calhoun studied the prevalence of fields that provided “subject-rich” words, which they define as words that would be useful when performing subject searches in online catalogs.\textsuperscript{18} They found that less than 5 percent of bibliographic records they studied contained the MARC 505 (Formatted Contents Note) and 520 (Summary, etc.) notes fields. No other work on this topic was found. The next sections describe the method used to sample and analyze bibliographic records from the LC website and outline the major results. This is followed by a discussion of the methods used to collect a smaller targeted sample of records for the two case study works, Lord of the Flies and Republic.

**Research Method—Random Sample**

The first set of records included in this study came from the LC online catalog (http://catalog.loc.gov). The author randomly sampled and examined 1,500 MARC records and recorded their data fields. Following the examination of each record, an analysis identified the most widely used MARC fields across the sample and determined if power laws would provide a good model for the statistical distribution of MARC field use. This section describes the methods used to collect a random sample of MARC records from the LC online catalog as well as the method used to count the fields in each record.

The random sample analyzed in this study consisted of 1,504 LC MARC records that were collected in early March 2009. The author collected the records from the LC online catalog using a script written in the Python programming language. The process used to collect the records was based on the system of LC Control Numbers (LCCNs) used by the LC. Since 1898, each item cataloged by the LC has been assigned an LCCN. These numbers are either eight or ten digits in length and consist of two concatenated segments. The first segment (either two or four digits) indicates the year the LCCN was assigned. For records created prior to January 1, 2001, the year segment is the last two digits in the year; for example, the LCCN year for 1987 is “87.” For records created after January 1, 2001, all four digits of the year are used in the LCCN, for example, “2007.” Because the change to a full four-digit year segment did not occur until 2001, records that begin with the digits “98” indicate records from 1898 and 1998, “99” indicates records from 1899 and 1999, and “00” indicates records 1900 and 2000. For these records, the years can be distinguished by the second segment, a six-digit assigned control number. For most years, the control numbers begin with the “000001” and are assigned incrementally as six digits: 000001, 000002, and so on. The records from 1998, 1999, and 2000, however, have been assigned control numbers that follow those from 1898, 1899, and 1900, respectively. Additionally, the
LCCNs for the years 1969–72 use a different numbering scheme, described as follows on the LC website, “During the 1969–1972 period, a 7-series year number was assigned. In these numbers the initial digit of 7 was followed by a modulus-ll check digit.” The importance of this different scheme for this study is that the LCCN numbers during those years do not follow the same pattern as all other years. This is discussed further in the description of the sampling algorithm.

The author collected the MARC field data for this study from the LC online catalog using the MARCXML LCCN Permalink pages. The Permalink page provides an XML representation of the MARC catalog record for a given item held by the LC. For example, the LCCN Permalink for the first records from 1905 and 2005 can be found at http://lccn.loc.gov/05000001/marcxml and http://lccn.loc.gov/2005000001/marcxml, respectively.

To illustrate more clearly, the first few lines from the MARCXML page for one LCCN that was included in this study (2008448698) is given here:

```
<record>
  <leader>00079cam a22002774a 4500 </leader>
  <controlfield tag="001">15355205</controlfield>
  <controlfield tag="005">20081030122910.0</controlfield>
  <controlfield tag="008">080617s2008 fr b 000 0 fr e</controlfield>
  <datafield tag="906" ind1="" ind2="">
    <subfield code="a">7</subfield>
    <subfield code="b">cbc</subfield>
    <subfield code="c">origres</subfield>
    <subfield code="d">3</subfield>
    <subfield code="e">ncip</subfield>
    <subfield code="f">20</subfield>
    <subfield code="g">y-genatlg</subfield>
  </datafield>
  <datafield tag="925" ind1="0" ind2="">
    <subfield code="a">acquire</subfield>
    <subfield code="b">1 shelf copy</subfield>
    <subfield code="x">policy default</subfield>
  </datafield>
</record>
```

The MARC fields are given in the tag that follows each <controlfield> or <datafield> tag. In this truncated example, the control field tags are 001, 003, and 008, and the data field tags are 906 and 925. The MARCXML pages also give the subfields and indicators for each data field, as shown above, but the subfield tags and indicators were not collected or analyzed in this study.

The record sampling and collection algorithm followed these steps: First, the Python script generated a random year between 1898 and 2009. Depending on the year generated, the number of digits was adjusted to the appropriate two- or four-digit year length. A random six-digit control number was then generated. For years prior to 1969, the random number was generated between 000001 and 200000, while for the years between 1969 and 2000 the random number was generated between 000001 and 899999. This difference in the number range reduced the bias toward more recent records that stems from the dramatic increase in publishing volumes over the past thirty years (and the corresponding increase in the number of LCCNs assigned per year).

Changing the range at 1969 also was an attempt to reduce problems relating to the idiosyncratic pattern of LCCN assignment for the years 1969–72 discussed above. The six-digit control number was then concatenated onto the year digits to create the full eight- or ten-digit LCCN. With this number in hand, the Python script sent an HTTP request to the LC website for the corresponding MARCXML LCCN Permalink page.

After receiving a response from the LC server, the script checked for an <error> tag in the XML. The presence of an <error> tag indicated that the randomly generated LCCN did not have an associated record. This was common, as many randomly generated numbers were not assigned to any record. For example, requesting the page http://lccn.loc.gov/50100000/marcxml returns an error because fewer than 100,000 LCCNs were assigned in 1950. When this occurred, the script generated a new random LCCN. This process of generating random LCCNs and requesting Permalink pages was repeated until a good record was found, as indicated by the absence of the <error> tag. When an error-free MARCXML Permalink page was downloaded, the script recorded the <controlfield> and <datafield> tags, which, when compiled, provide the list of MARC fields occurring in that record.

In performing an initial analysis, the author found the data from four records to be faulty because of problems that occurred during the data collection process, and those records were thus removed from the data set. For example, in one case what appeared to be one record was actually two records, 98171673 and 99111995, that were collected under a <marcCollection> tag on the XML page for 98171673. Because this misrepresented the field counts for that record, it was excluded. The other excluded records had similar issues. Excluding these four records left a total of 1,500 records for analysis.

Figure 1 shows the distribution of sampled records by year. This distribution looks mostly random, with the exception of 1965–71, 1898–1900, and 1998–2000. The number of samples taken from each year tends to increase through the twentieth century and into the twenty-first century, which is to be expected from a random sample, as the publication of titles has increased over the century. The totals for 1965–68 were artificially high and the totals
for 1969–71 were artificially low because of the algorithm used to generate LCCNs described above. No samples were records from 1898–1900 because the sampling algorithm was biased to take into account the LCCN inconsistencies described in the first paragraph of this section. Thus all sampled records with LCCNs starting with 98, 99, and 00 were from 1998–2000. Even with these sampling anomalies, the highest number of records sampled from a given year was 42 in 2000, which constitutes less than 3 percent of the total sample population.

The author used two metrics to count fields in records: field incidence, defined to be the presence or absence of a field in a record, and occurrence, defined to be the total number of times a record uses a field. In other words, when counting field incidence, each field is only counted once per record, even if it is used more than once in a given record, whereas occurrence counts all instances of that field. Thus a record that contained three 700 fields received an incidence value of one and an occurrence value of three for the 700 field.

Results and Analysis of Random Sample Research

The 1,500 sampled records contained 29,689 fields. The mean and median numbers of fields per record were 19.8 and 19, respectively, with a maximum of 80, a minimum of 10, and a standard deviation of 4.95. The vast majority of the sampled records (91 percent) contained between 13 and 26 fields. Only 1 percent of the sample (two records) contained less than 13 fields, and 8 percent of the sample contained more than 26 fields. One record (53035190, a record for a German periodical) contained 80 fields, placing it far outside the main group. Of the 80 fields in this record, 31 were 991 fields, which is a preprocessing location/conversion field. Even with the 991 fields removed, however, this record would still have the most fields of any record in the sample.

Field Incidence and Occurrence Rates

The author observed 144 MARC fields in the 1,500 record sample, and the incidence rates ranged widely for different fields. Each field was incident in an average of 190 records. The median incidence rate, however, was far lower, at 14 records per field. The difference in the mean and median values indicates a large skew in the field incidence rate. Four fields were incident in all 1,500 records in the sample, and the minimum number of incidences was one record. Nineteen fields were only observed in a single record. Figure 2 shows a rank–frequency plot of the field incidence. In this figure, the y-axis shows the number of incident records that contained at least one instance of a given field, with the x-axis showing the rank in order of frequency of incidence. The vast majority of fields were incident in only a small number of records, but a small number of fields appear in nearly all of the sampled records. Appendix A lists the 23 most incident fields. All other fields were incident in less than 20 percent of the sampled records. The curve in figure 2 shows the obvious shape of a power law distribution, with the notable exception of the ten top ranked fields, which, as appendix A shows, were all incident in greater than 99 percent of the sampled records.

The next step was to test how the Zipf distribution fits the distribution of MARC fields in bibliographic records. The equation for Zipf’s law is $f = c/r^a$, where $f$ is the frequency of incidence, $r$ is the rank, $c$ is a constant, and following Zipf’s original formulation, $a = 1.20$. Figure 3 shows the same data with the ten highest ranked fields that were incident in 99 percent or more of the sampled records collapsed into a single entry with an assigned frequency of 100 percent. The two lines represent Zipf functions with $c = 30$ (solid line) and $c = 45$ (dotted line). The best fitting value lies somewhere
between these two values. As this figure shows, the Zipf functions appear to provide a good model for the field incidence rates when the highest ranked fields are collapsed into a single entry.

But is this collapsing necessary? Can the incidence data be modeled even with the inclusion of the top ranked fields? The next step was to see if the Lotka function fit the data better than the Zipf function. Egghe provides a method for fitting Lotka functions to informetric data. The formula for the Lotka function is similar to the Zipf function, $y = c/x^n$, where $y$ = the number of records in which a field is incident, $x$ = the rank in order of incidence rate, and $c$ is a constant, as is $n$, which may or may not equal one. Following Egghe, the values of $c$ and $n$ can be found in the following manner:

$$c = y(1) = \text{the number of incident records for the top ranked field} = 1,500.$$
$$n = \frac{(2^A-T)/(A-T)}{T} = \text{the total number of unique MARC fields observed. Thus, } n = 2.005301.$$ 

Plugging these values into the Lotka function and plotting it alongside the data created figure 4. In this figure, the line represents the function $y = 1500/x^{2.005301}$. As this figure shows, this function fits the data very well. Thus the Lotka function appears to give a good model for the incidence rates of MARC fields in the LC bibliographic records.

### MARC Field Occurrence Rates

As explained above, incidence rates measure how many records contained a given field at least once, and occurrence rates measure how often each field is used in a given record. Many fields occurred more than once in an individual MARC record. Counting all occurrences of individual fields, the mean number of occurrences per field was 206 with a median of 14 occurrences (compare with the incidence mean of 190 and median of 14). The maximum number of occurrences of a single field was 1,817 for the 650 field, and the minimum number of occurrences was 1 for 19 different fields.

The total number of field occurrences across all records does not tell a great deal about the use of individual fields, however, as the incidence rate has a large effect on the occurrence rate. Thus the occurrence rates for each field were normalized by dividing them by their incidence rate. Appendix B shows the 20 highest ranked MARC fields in order of their normalized occurrence rates. The last column shows the total number of times individual fields occurred. The 880 field (Alternate Graphic Representation) had the highest normalized occurrence rate, an average of 4 per each incident record.

The average normalized occurrence rate for the observed fields was 1.10 field occurrences per record, and this rate again showed the power law shape. A Zipfian distribution line showed the best fit to the normalized occurrence rate, as illustrated in figure 5. In this plot, the equation for the solid line is $f = 1 + 1/(20^r)$, and the equation for the dotted line is $f = 1 + 1/(30^r)$. Thus $c$ is approximately equal to 1/20 or 1/30.

### Research Method—Case Studies

This section describes an analysis of fields in MARC records for two specific works, William Golding’s *Lord of the Flies*, and Plato’s *Republic*. Plato’s *Republic* represents a canonical text in modern Western society with a publication history that extends back for hundreds of years and, correspondingly, an extensive bibliographic family. *Lord of the Flies* represents a contemporary work, but one that is popular enough to have been published in a number of editions, translations, and compilations. The case studies were chosen to represent works that typically would be found in library catalogs and have bibliographic families large enough to benefit from...
more “FRBR-ized” methods of display and access.

The author collected the MARC records for the case studies from the University of California, Los Angeles (UCLA) online catalog and the Research Libraries Group RLIN Union Catalog in early 2007. One hundred MARC records in the UCLA online catalog were related to Plato’s Republic, but only 17 records were related to William Golding’s Lord of the Flies. In light of the small number of records available through the UCLA catalog, a title search for “Lord of the Flies” was run in RLG’s RLIN Union Catalog, and 98 records were pulled from the highest volume search result. This entry contained 106 records, but 8 unrelated records were excluded (an example is The Best American Science Writing 2000, which containing a work entitled “Lord of the Flies” by Jonathan Weiner, an essay on fruit fly breeding), leaving a 98 record sample. These samples did not include all manifestations of these two works, but rather should be taken as representative samples of their extended bibliographic families.

The author examined each record individually for both works and recorded the data fields present in each record. As before, MARC fields were examined at the number level only; presence or absence of subfields or indicators was not recorded. The MARC incidence data were then accumulated for each work separately and incidence rates were calculated.

Results and Analysis of Case Studies

The case study results generally followed the results of the random sample analysis. For the Lord of the Flies records pulled from the RLIN union catalog, there was an average of 19 fields per record (maximum = 53 fields, minimum = 8 fields), with a standard deviation of 8.8. For the Republic records pulled from the UCLA catalog, there was an average of 22.5 fields per record (maximum = 46 fields, minimum = 12 fields), with a standard deviation of 5.3. The two works exhibited 87 different fields. Appendix C shows the fields that appeared in more than 20 percent for the records of each work. For the Lord of the Flies records, 34 percent of the incident fields (23 of 68) had incidence rates greater than 20 percent, and similarly, for the Republic records, 39 percent of the incident fields (24 of 62) had incidence rate greater than 20 percent. These results echo what was found in the random sample discussed above, though the incidence rates of some fields varied between the two works and the random sample.

Fitting Lotka functions to the MARC data from these works was not as successful as for the random sample. Applying Egghe’s method, one can try to fit Lotka functions for each work. For the Lord of the Flies data, $c = 98$ (the number of incident records for the top ranked field), $A = 1,499$ (total number of incident fields), $T = 68$ (number of unique MARC fields), giving $n = 2.047519$. For the Republic data, $c = 100$, $A = 1,918$, and $T = 62$, giving $n = 2.033405$.

Figures 6 and 7 show rank-frequency plots of the MARC incidence data for both works. Figure 6 displays the Lord of the Flies data, with a line representing the Lotka function $y = 98/x^{2.047519}$. Figure 7 displays the Republic data, with a line representing the function Lotka function $y = 100/x^{2.033405}$.

The power law curves in these figures generally follow the trends of the data, though not as well as the data from the random sample of LC records. This is likely because of the smaller number of records sampled as well as the differences in cataloging practice that generated the records. For example, the most obvious difference between the two case studies is that only 6 fields were present in more than 95 percent of the Lord of the Flies records, but 11 fields were present in the Republic records at that rate. Looking more closely at appendix C, 3 of the fields found in 100 percent of the Republic records are processing fields that were either for local UCLA use (000 and 910) or not included in
The Distributions of MARC Fields in Bibliographic Records

the RLIN catalog (005). The presence of additional processing fields in the Lord of the Flies records would more closely align the results of the two case studies.

**Discussion**

What are the implications of Zipf and Lotka distributions of MARC fields in bibliographic records? As Tague noted, observing or quantifying these distributions in a given set of materials means very little by itself; instead the focus needs to be on explanations or ramifications of the analysis.23

First, if a prospective goal of catalog systems is to generate displays that link related records in a FRBR-like way, these field distributions may give some indication of the available data for doing so. Looking at the fields that are found in the most records (see appendix A), of the 12 fields incident in more than 80 percent of the sampled LC records, 9 of them are processing, control, or classification fields. The other 3 are the “workhorse” description fields of the MARC record (245, 260, and 300), which all occur in more than 99.5 percent of the random sample. After these 12 fields, the incidence rate drops off rapidly, with the 100 and 650 fields being the only fields that were incident in more than 50 percent of the randomly sampled records. A similar pattern can be seen in the case studies, although some fields were more important to the case studies than the larger LC sample. For example, the 700 (Added Entry) field was found in 62 percent and 88 percent of the Lord of the Flies and Republic records respectively, which is not surprising given the number of translations, compilations, and annotated editions that can be found in the bibliographic families of each of these works, whereas the 700 field was found in 26.7 percent of the random LC sample. Additionally, the 500 (Notes) field was found more often in the case studies than in the random LC sample, being incident in 62 percent and 50 percent of the Lord of the Flies and Republic records respectively, as opposed to 33.8 percent in the LC records.

Looking closer at the incidence data, other patterns emerge. Table 1 shows the incidence rates for sets of fields. While individual fields may not occur very often—such as the 110 field, which was incident in 11.5 percent of the randomly sampled LC records—any occurrence of a 1XX field in a record provides important information. The cumulative incidence rates for these sets of fields are higher than for any individual field in each set. For example, the 5XX fields occurred in 55 percent of the randomly sampled LC records, but the highest value for any individual 5XX field was the 500 field, which was incident in 34 percent of the sample. Similarly, the 650 field was incident in 66 percent of the sampled records, but the set of 6XX fields were incident in 84 percent of the sample. These cumulative incidence values are perhaps more useful than the values for individual fields in estimating the types and quantity of data available for identifying and characterizing the bibliographic relationships between records.

Combining this table with appendix A, one can see that the main sources of information in MARC records are found in the 1XX, 245, 260, 300, and 6XX fields, with the 5XX, 71X–75X, and 4XX fields providing some additional information. The added entries fields, 71X–75X, are an important source of information in determining relationships between records, and at a nearly 40 percent combined incidence rate they are by far the most widely used of such fields. Table 1 illustrates how the 76X–78X fields, which allow the cataloger to indicate direct relationships between records (conventionally used in describing

<table>
<thead>
<tr>
<th>Fields</th>
<th>Field Description</th>
<th>Incident Records</th>
<th>Incidence Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1XX</td>
<td>Main Entry</td>
<td>1303</td>
<td>86.87</td>
</tr>
<tr>
<td>4XX</td>
<td>Series Statement</td>
<td>306</td>
<td>20.40</td>
</tr>
<tr>
<td>5XX</td>
<td>Notes</td>
<td>824</td>
<td>54.93</td>
</tr>
<tr>
<td>6XX</td>
<td>Subject Access</td>
<td>1266</td>
<td>84.40</td>
</tr>
<tr>
<td>71X–75X</td>
<td>Added Entry</td>
<td>596</td>
<td>39.73</td>
</tr>
<tr>
<td>76X–78X</td>
<td>Linking Entry</td>
<td>21</td>
<td>1.40</td>
</tr>
<tr>
<td>80X–83X</td>
<td>Series Added Entry</td>
<td>114</td>
<td>7.60</td>
</tr>
<tr>
<td>841–88X</td>
<td>Holdings, Location, Alternate Graphics, etc.</td>
<td>131</td>
<td>8.73</td>
</tr>
</tbody>
</table>
relationships between serial titles though not specifically reserved for that purpose), are rarely used. Thus, even if these fields can be mapped to the FRBR model, they will be of little use when actually creating a “FRBR-ized” catalog. Uniform title and edition statement fields, which provide additional record linking information, also had small incidence rates. The 130 (Main Entry—Uniform Title) field occurred in 17 records, a 1 percent incidence rate, and the 240 (Uniform Title) field occurred in 57 records, a 4 percent incidence rate. The 250 (Edition Statement field occurred in 192 records, a 12.8 percent incidence rate.

Why Do MARC Fields Exhibit Power Laws?

Moving now to the observed power law relationships themselves, one may ask why these relationships were observed. Can these power law relationships in MARC field use by catalogers be accounted for in some way? Earlier, the “rich get richer” process was discussed as one possible mechanism that can lead to the observation of power law relationships in a wide variety of settings. This “rich get richer” process is likely an important mechanism in relation to the findings of this study. The most widely used fields follow long established cataloging traditions. Charles Ammi Cutter, in his well-known 1904 work *Rules for a Dictionary Catalog*, describes the objects of the catalog as the following:

1. To enable a person to find a book of which either
   A. The author is known.
   B. The title is known.
   C. The subject is known.
2. To show what the library has
   A. By a given author.
   B. On a given subject.
   C. In a given kind of literature.
3. To assist in the choice of a book
   A. As to its edition (bibliographically).
   B. As to its character (literary or topical).
4. To provide means for achieving these objectives, Cutter proposed the following means:

1. Author-entry with the necessary references (for A and D).
2. Title-entry or title-reference (for B).
3. Subject-entry, cross-references, and classed subject-table (for C and E).
4. Form-entry and language-entry (for F).
5. Giving edition and imprint with notes when necessary (for G).

Cutter’s catalog objectives and means for achieving them identified the kinds of information most useful to achieving what in his view were the objectives of the catalog. Cutter was highly influential to the subsequent development of cataloging practice, particularly to the code-developing work of Seymour Lubetzky; and his catalog objectives (and corresponding means to achieve them) were ultimately encoded into the Anglo-American Cataloguing Rules.

Looking back at appendix A, one sees a close correspondence between the MARC fields with the highest incidence rates from the random sample of LC records and Cutter’s list of means for achieving his catalog objectives. The 100 field (74 percent incidence) meets means 1, the 245 field (99.9 percent incidence) meets means 2, the 050 and 650 fields (99 percent and 66 percent incidence respectively) meet means 3, the 008 field (100 percent incidence) meets the language-entry aspect of means 4, and the 260 and 300 fields (both 99.7 percent incidence) meet means 4 and 5 on Cutter’s list. Thus, in a “rich get richer” manner, certain kinds of information were identified to be important by scholars such as Cutter, and over time the practice of including these particular kinds of information became “richer” through wider incorporation into cataloging practices and cataloging code.

Power Laws and Cataloging Code

The relation of cataloging code to the power law distribution of MARC fields is another important implication of this study. It may seem tautological to say that there are important relations between the distributions observed in this study and the Anglo-American Cataloguing Rules, given that a large portion of the records included in this study were cataloged to either the first or second edition of the Anglo-American Cataloguing Rules, but with the pending release of the RDA next generation cataloging rules, probing these relations may shed light on potential issues in converting to the new rules. The Anglo-American Cataloguing Rules, 2nd edition (AACR2) is organized in such a way that the fields found to be most prevalent in MARC records are given prime importance. AACR2 is broken into two main sections: Part 1 provides the rules for describing library resources, and Part 2 provides the rules for creating headings, uniform titles, and references. Focusing on Part 1, the first chapter of AACR2 gives the general rules for description and is followed by eleven chapters that enumerate sets of rules for dealing with particular kinds of resources, such as books, pamphlets, and printed sheets (chapter 2); cartographic materials (chapter 3); and manuscripts (chapter 4). Each chapter contains section headings for the following description areas: title and statement of responsibility, edition, material specific details, publication and distribution, physical description, series, note, and standard number. These main headings encompass the nonprocessing fields that in this study had the highest incidence rates in catalog records (illustrated in appendix A), as well as fields that were
less prevalent, such as the edition statement, material specific details, and series statement. The rules specific to the lesser used fields are found by looking further into the chapters for each particular material type. The material-specific chapters in AACR2 emphasize certain description areas in greater or lesser detail depending on the needs of each type of material. For example, the physical description area in chapter 5, “Music,” has six subsections under the physical description area, whereas chapter 6, “Sound Recordings,” has nineteen subsections under the physical description area.

The organization of the rules in RDA is notably different. RDA’s main organizational scheme draws on the conceptual models found in the FRBR and Functional Requirements for Authority Data (FRAD) reports. RDA is broken into ten sections. Each section contains between one and five chapters devoted to recording information about particular entities in the FRBR and FRAD models. For example, the first four sections are “Recording Attributes of Manifestation and Item,” “Recording Attributes of Work and Expression,” “Recording Attributes of Person, Family, and Corporate Body,” and “Recording Attributes of Concept, Object, Event, and Place.” Subsequent chapters specify rules for recording information about relationships between entities. Looking closer at RDA, the location of the rules for recording high-incidence fields (title and statement of responsibility, publication and distribution, physical description, and notes) are not organized as linearly as they are in AACR2. The rules for recording the title, statement of responsibility, publication and distribution details (as would be recorded in the MARC 100, 245, and 260 fields) are found in chapter 2, “Identifying Manifestations and Items,” and the rules for recording the physical description (MARC 300 field) are found in chapter 3, “Describing Carriers.” Rules for creating notes are found throughout both chapters. The material-specific rules—such as those for music, recorded sound, video, etc.—are mixed into each chapter of RDA rather than the AACR2 practice of giving them their own chapters. This can be illustrated by looking at five rules in RDA specific to printed music. In chapter 2, which contains 228 pages, the rule for type of musical composition, medium of performance, key, etc., is found on page 25; the rule for devised titles for music is on page 56; and the rule for publisher’s number for music is on page 194. Similarly, in chapter 3, which contains 141 pages, the rule for extent of notated music is on page 30 and the rule for score and parts in a single physical unit is on page 134. These five RDA rules correspond to rules 5.1B1, 5.1B2, 5.4D3, 5.5B, and 5.5B1 in AACR2, all of which are found within the twenty pages of chapter 5, which is dedicated to printed music. This is only a small selection of the rules specific to printed music in RDA; many other music specific rules are spread around other chapters. The same illustration could be made for any other kind of material.

These differences between RDA and AACR2 raise important questions about the accessibility of RDA to cataloging students as well as the ease of transition to the new rules by experienced catalogers. Whether the less direct correspondence between the organization of the rules in RDA and the most widely used MARC fields provide as clear a roadmap as AACR2 for students learning to catalog is an open question. Additionally, regarding the co-location of material-specific rules in AACR2, and the lack thereof in RDA, few situations require that catalogers use rules specific to two different kinds of materials in cataloging a single item. Further research will be necessary to show whether the new rule organization scheme in RDA speeds up or slows down catalogers, both novice and experienced, as they find and apply the less-used but still important material-specific rules.

Conclusions

Library catalog systems worldwide are based on collections of MARC records. New kinds of catalog retrieval systems, displays, and cataloging rules, whether they are based on the FRBR entity-relationship model or another model, will build on these ever-growing MARC record collections. Characterizing the kinds of information held in MARC records is thus an important step in developing new systems and rules. This study examined the incidence and prevalence rates of MARC fields in two different sets of library catalog records. First, an analysis of a random sample of 1,500 MARC records from the LC online catalog found that most of these records contained between 13 and 25 fields. Ten fields occurred in more than 99 percent of all of the randomly sampled records. Further analysis showed that the rates of MARC field incidence fell off rapidly for less-used fields and that the rate of drop-off in use can be modeled very accurately by Zipf and Lotka power law functions. Second, a similar analysis on records for two specific works, William Golding’s Lord of the Flies and Plato’s Republic, tested whether trends found in a large random sample would hold for smaller subsets of records. Overall, the trends were similar. Most records consisted of an average of 19 MARC fields, and the majority of fields occurred in less than 20 percent of the records for each work. The incidence data from these two works followed the power law shape but did not fit power law curves as well as the random sample of LC records; this is most likely because of differences in the cataloging practices of the record sources and the smaller number of records in the case studies.

These results have important implications for the design of “FRBR-ized” catalog displays. The fields that explicitly create links between records, such as the 76X–78X fields and the 130 and 240 uniform titles fields, have low incidence rates. However, many implicit links, such as those created
by the 71X–75X added entry fields, are available in records. These implicit links enable work on algorithmic methods to pinpoint relationships between records and to cluster records for display to a catalog user. Aalberg, as well as Hickey and O’Neill, provides illustrations of current work in creating such algorithms. 32

The results of this study highlight some issues that may arise in the transition from AACR2 to RDA. Looking at the organization of the rules in RDA and AACR2 in relation to the results of this study, two main differences are apparent. First, there is a less direct correspondence between the main chapter and section headings and the observed incidence rates of MARC fields in RDA than there is in AACR2. Second, the less-used material-specific rules are grouped together into chapters in AACR2, while in RDA they are not grouped together by material type but are spread around multiple chapters according to how they apply to the FRBR and FRAD entities. These differences may be difficult for novice catalogers to learn and for experienced catalogers to adapt to. The introduction to AACR2 states, “The rules follow the sequence of cataloguers’ operations in most present-day libraries and bibliographic agencies.” 33 With the transition to RDA, this will no longer be the case, particularly in the early stages of the move. Catalogers, library administrators, and cataloging instructors all will have to adjust their practices and policies to the new rules.

This study has a number of potential extensions. Looking at the relationship between classification assignments and MARC field incidence might show whether materials from particular disciplines are cataloged more thoroughly than others. Similarly, analyzing records by the period in which they were cataloged might illustrate how field use rates have changed over time. Additionally, field incidence rates could be compared for different kinds of works (such as monographic, serial, cartographic, visual, etc.) or between digital and physical copies of the same works to estimate the relative cataloging workload that different materials might require. As the case study works in this analysis show, different kinds of materials likely will show different distributions of MARC incidence. Further, it might be useful to look in more detail at MARC record characteristics that this study did not examine, such as the prevalence of subfields and indicators, to provide a more nuanced characterization of the field incidence patterns. Finally, it will be interesting to revisit this study after libraries and other bibliographic organizations have transitioned to RDA, as successful application of the new rules will certainly affect the field incidence rates in future MARC records.

References


22. Ibid.


27. Ibid.


30. Joint Steering Committee for Development of RDA, RDA: Resource Description and Access, Full draft of RDA.


### Appendix A. The Most Frequently Incident Fields in the Library of Congress Records

<table>
<thead>
<tr>
<th>Rank by Frequency of Incidence</th>
<th>MARC Field</th>
<th>Field Description</th>
<th>Number of Records that Contained a Given Field</th>
<th>% of Records with Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>906</td>
<td>Local Processing Field</td>
<td>1500</td>
<td>100.00</td>
</tr>
<tr>
<td>2</td>
<td>001</td>
<td>Control Number</td>
<td>1500</td>
<td>100.00</td>
</tr>
<tr>
<td>3</td>
<td>008</td>
<td>Date Entered on File</td>
<td>1500</td>
<td>100.00</td>
</tr>
<tr>
<td>4</td>
<td>010</td>
<td>LCCN</td>
<td>1500</td>
<td>100.00</td>
</tr>
<tr>
<td>5</td>
<td>005</td>
<td>Date and Time of Latest Transaction</td>
<td>1499</td>
<td>99.93</td>
</tr>
<tr>
<td>6</td>
<td>040</td>
<td>Cataloging Source</td>
<td>1499</td>
<td>99.93</td>
</tr>
<tr>
<td>7</td>
<td>245</td>
<td>Title Statement</td>
<td>1498</td>
<td>99.87</td>
</tr>
<tr>
<td>8</td>
<td>260</td>
<td>Publication, Distribution, etc.</td>
<td>1496</td>
<td>99.73</td>
</tr>
<tr>
<td>9</td>
<td>300</td>
<td>Physical Description</td>
<td>1495</td>
<td>99.67</td>
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</tbody>
</table>
### Appendix A. The Most Frequently Incident Fields in the Library of Congress Records (cont.)

<table>
<thead>
<tr>
<th>Rank by Frequency of Incidence</th>
<th>MARC Field</th>
<th>Field Description</th>
<th>Number of Records that Contained a Given Field</th>
<th>% of Records with Field</th>
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### Appendix B. Highest Ranked MARC Fields for the Library of Congress Records by the Frequency of Occurrence, Normalized by the Number of Records in Which They Were Incident

<table>
<thead>
<tr>
<th>Rank by Frequency of Occurrence</th>
<th>MARC Field</th>
<th>Field Description</th>
<th>Number of Occurrences per Record Observed to Have That Field</th>
<th>Total Field Occurrences</th>
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<td>880</td>
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<td>074</td>
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<td>3</td>
<td>249</td>
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<td>30</td>
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<tr>
<td>4</td>
<td>650</td>
<td>Subject Added Entry—Topical Term</td>
<td>1.84</td>
<td>1817</td>
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<tr>
<td>5</td>
<td>592</td>
<td>Local Notes</td>
<td>1.83</td>
<td>11</td>
</tr>
<tr>
<td>6</td>
<td>856</td>
<td>Electronic Location and Access</td>
<td>1.61</td>
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<tr>
<td>7</td>
<td>510</td>
<td>Citation/References Note</td>
<td>1.56</td>
<td>14</td>
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<tr>
<td>8</td>
<td>655</td>
<td>Index Term—Genre/Form</td>
<td>1.55</td>
<td>65</td>
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<tr>
<td>9</td>
<td>535</td>
<td>System Details Note</td>
<td>1.50</td>
<td>3</td>
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<td>10</td>
<td>500</td>
<td>General Note</td>
<td>1.45</td>
<td>735</td>
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<td>11</td>
<td>700</td>
<td>Added Entry—Personal Name</td>
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<td>569</td>
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### Appendix B. Highest Ranked MARC Fields for the Library of Congress Records by the Frequency of Occurrence, Normalized by the Number of Records in Which They Were Incident (cont.)

<table>
<thead>
<tr>
<th>Rank by Frequency of Occurrence</th>
<th>MARC Field</th>
<th>Field Description</th>
<th>Number of Occurrences per Record Observed to Have That Field</th>
<th>Total Field Occurrences</th>
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<td>740</td>
<td>Added Entry—Uncontrolled Related/Analytical Title</td>
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<td>651</td>
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<td>Varying Form of Title</td>
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<td>Added Entry—Corporate Name</td>
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### Appendix C. MARC Fields with Incidence Rates Greater than 20 Percent for the Case Studies

**Lord of the Files (n = 98)**

<table>
<thead>
<tr>
<th>MARC Field</th>
<th>Field Description</th>
<th>Incidence Rate (%)</th>
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<td>001</td>
<td>Control Number</td>
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<tr>
<td>008</td>
<td>Date Entered on File</td>
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<td>245</td>
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<td>260</td>
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<tr>
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<td>Added Entry—Personal Name</td>
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<td>Subject Added Entry—Topical Term</td>
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Appendix C. MARC Fields with Incidence Rates Greater than 20 Percent for the Case Studies (cont.)

**Lord of the Files (n = 98)**

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<td>Summary Note</td>
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<td>Library of Congress Control Number</td>
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<td>Added Entry— Corporate Name</td>
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**Republic (n = 100)**

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<td>Date Entered on File</td>
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<td>System Control Number</td>
<td>100</td>
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Index to Advertisers

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Library Technologies..............................................................................................................................................................cover 3
Book Reviews

Edward Swanson


This text, a collection of more than six hundred policies, forms, and procedures selected by Rebecca Brunley, serves as a convenient single source for high-quality policies on every topic an academic library may need to address. The table of contents lists forty-four chapters organized into twelve parts and could serve as a policy checklist for many libraries.

It is interesting to compare well-written policies so easily. While length and detail will vary, key words and concepts do start to emerge for these comparisons, making this book potentially useful for library administrators, policy committees, and library management instructors.

The author has worked in both academic and public libraries, and has published a similar text for public libraries. Brunley recognizes that academic libraries work with many different groups of patrons, including students, faculty, community members, alumni, and others, and thus she provides examples of policy variations for working with patrons who have different academic needs.

For more unusual policy statements, like “Sleeping in the Library during Finals,” only one example may be given. For the more common policies found in academic libraries, like “Scope of Collection,” there may be several policy examples ranging from small community colleges to large research libraries. However, the author does not share what criteria she used in making her selections for inclusion in the text. Sharing the criteria, or perhaps a discussion introducing each chapter and a summary of the author’s selection process, would have helped this text considerably.

The index, although well laid out, could have benefited by more thorough proofreading. For example, under “Dissertations,” it lists the “Collection Development” example to be found on page 117, when the entry actually begins on page 118. The entry on binding dissertations is not found in the index at all.

A stronger index could also have helped with the problems of related topics that are physically separated from each other in the book and may benefit from comparison. For example, there is a sentence with tax advice in the in-kind gifts policy that may be of interest to the reader of the tax deductions policy, which is several pages earlier in the text. Not only are the policies separated physically, but also, unfortunately, the tax deductions comment mentioned in “In-Kind Gifts” is not reflected in the index.

Although there is no advice for approaching the policy-writing process itself, this resource nonetheless provides a CD-ROM that makes available PDFs of all six hundred policies, forms, and procedures published in the text. The CD-ROM also provides additional policies not published in the book.

Early in the preface, the author indicates that the reader may “easily download the complete text or form from the companion CD-ROM . . . to adapt for your own use” (page xxix). Later, also in the preface, it is stated that “these documents can be downloaded into Microsoft Word and altered to fit your library’s requirements, or even used as is. The electronic documents are a vital time-saver for managers updating a manual or creating a set of policies from scratch” (page xx). I was struck by the author’s generous tone while at the same time finding on the CD-ROM a Neal-Schuman copyright notice stating that “reproduction of this book, in whole or in part, without written permission of the publisher, is prohibited.” I decided to explore this contradiction a bit to see how much security the publisher put on the PDFs and was pleased to find that there was no restriction to downloading or copying from the PDF using either Adobe Acrobat Reader or Adobe Professional.

There is concern for how quickly some of the policies may become dated. While mission and vision statements may be stable over time, some policies may change in just a few years in response to changes in the tax code or, as another example, changes in societal conventions regarding cell phone use.

Additionally, there is an appendix: “Web Sites of Contributing Libraries.” It is not clear exactly what rights have been shared from each school with the author. However, school policy and copyright dates are given in this appendix as well as some URLs. It would have been more valuable to have the policy and copyright dates associated with the text of its specific policy rather than having them separated and aggregated with other schools’ date information in the back.

With so many policies now available online, the convenience of comparison and scope of topics are the strengths of this book. Neal-Schuman’s copyright statement, however, diminishes its value to its intended audience—busy librarians.—Ruth A. Zietlow (razietlow@stcloudstate.edu), St. Cloud State University, St. Cloud, Minnesota.

Peggy Johnson’s goal is for this book to serve as an introduction to collection development and management for students while also being a resource for experienced librarians. She blends history, theory, and practical tips into a solid introduction to the major issues of collection development and management.

As in the first edition, Johnson begins with a chapter discussing the history of collection development and briefly introducing some of the major issues. In the next six chapters she discusses major responsibilities of collection work in all types of libraries: organization and staffing; policy, planning, and budgets; developing collections; managing collections; marketing, liaison, and outreach activities; and collection analysis. The first edition’s chapter on electronic resources has been eliminated; discussions of electronic resources are integrated into the other chapters, reflecting the changing role of electronic resources in library collections over the last five years. The chapter on collaborative collection development and management is substantially longer than in the first edition, exploring collaborative purchasing, storage, and electronic archiving, among other topics. Johnson also has added a new chapter on scholarly communication issues.

I enjoyed the way Johnson shifted from theoretical discussion of issues to practical advice. For example, the chapter on collection management discusses the best environmental conditions for collections, refers readers to professional association guidelines on preventing theft, and suggests that academic and school librarians ask instructors to require students to use photocopies or their own artwork to illustrate projects as a way to reduce library materials mutilation.

As Johnson notes in the preface to this edition, one of her goals was to improve the book by addressing reviewer comments that the original was too focused on academic libraries. She has made valiant efforts to incorporate more material on other types of libraries. Most chapters include separate sections on academic, public, and school libraries; some also have sections on special libraries. The discussion of censorship and intellectual freedom has been expanded to include more examples and advice for public and school libraries. Despite Johnson’s efforts, the focus is still on large academic libraries. For example, the chapter on organization and staffing acknowledges that in smaller public libraries and school libraries, one person may handle all collections work, but the section on training assumes new selectors will work in settings with multiple librarians and a supervisor able to assist in developing a learning plan. Several pages are devoted to the Conspectus approach to assessing academic collections, but no mention is made of using turnover rate to assess user demand for specific sections of a public library collection. Faculty using the book as a text for collection development courses will need to encourage discussion of how collection development principles apply in other types of libraries.

While Johnson correctly defines a contract as “a formal, legal binding agreement between two or more parties,” I am concerned by her statement that “it is usually in writing, but a verbal contract to which the parties agree can be legally binding” (117). If no written contract exists, courts must consider verbal agreements in resolving contract disputes, but librarians negotiating license agreements should realize that providing the terms of a verbal agreement is difficult and that the terms of a written contract supersede verbal agreements. If a contract is reduced to writing, the writing should include all important terms. If a contract is not written, the librarian should document any verbal agreements, perhaps by e-mailing a memorandum outlining the terms to the other parties.

The book includes several features that make it useful for classroom work or self-study. Each chapter includes a case study; for example, readers are asked to develop an outreach plan for an elementary school and a collection analysis plan for an academic science collection. Johnson also refers readers to the case studies from the first edition, which are available online as supplemental resources. The suggested readings listed at the end of each chapter are much more extensive than in the first edition and are better balanced across academic, public, and school library settings. The glossary serves as a quick reference and reduces the need to clutter the text with definitions. The four appendixes include a list of professional resources (journals, electronic discussion lists, and professional organizations), a list of selection aids, sample collection development policies for public and academic libraries, and sample contract and licensing terms. A thorough index makes it easy to find specific topics in the text.

Although the book is slanted toward large academic library practices, Johnson provides a solid introduction to collection development and management. The second edition includes a substantial amount of new material, ranging from more discussion of public and school library contexts to a new chapter on scholarly communications. It should be useful as a textbook and as a refresher for experienced librarians.—Ginger Williams (ginger.williams@wichita.edu), Wichita State University, Wichita, Kansas.


These three volumes report the content of the last three of five meetings arranged by the International Federation of Library Associations and Institutions (IFLA) for cataloging experts from different regions of the globe to discuss revisions to the **Statement of Principles** adopted by IFLA in 1961, better known as the Paris Principles. 

Statement of Principles

The historical nature of these meeting documents is clear, but the format of the meetings makes for a significant amount of repetition. Each volume contains a version of three presentation papers on IFLA's International Standard Bibliographic Description (ISBD) Programme, Functional Requirements for Bibliographic Records (FRBR), and the Virtual International Authority File (VIAF). The volume for meeting 5 contains versions of a number of background papers that also appeared in the volume for meeting 2. The content of these papers is sometimes updated from volume to volume, and sometimes just rearranged. There also are regional translations in each volume for each section (Arabic for meeting 3; Chinese, Japanese, and Korean for meeting 4; and French and Portuguese for meeting 5). Each of the presentation and background papers provides a lucid and well-informed overview of its topic, but this content does not vary significantly from volume to volume.

More interesting are the country reports. Each volume includes reports from one or more of the countries represented—one report for meeting 3, seven for meeting 4, and nine for meeting 5. Together these reports provide a kaleidoscopic view of the challenges being faced by librarians in the Middle East, Asia, and Sub-Saharan Africa. In some cases country representatives use the report as an opportunity for local recommendations. Dina Isyanti of the National Library of Indonesia presents detailed recommendations for revising the **Anglo-American Cataloguing Rules, 2nd ed. (AACR2)**, rules on Indonesian personal name headings. Tae Soo Kim of Yonsei University in Korea explains Korea's decisions not to use main entries and to move toward post-coordinated subject access. V. K. Fosu of Ghana and 'Mabafokent Makara of Lesotho provide wry accounts of the difficulties faced by librarians in their countries. Together, these reports provided the clearest evidence of the regional differences that made the series of meetings necessary.

The outcome of each meeting's
deliberations is represented in several ways. Each volume includes a marked-up version of the Statement of Principles and glossary showing the changes made at the meeting reported. Barbara Tillett provides a summary in each volume of the positions taken by the representatives on each point at the preceding meetings. Each volume also includes the reports of the meeting’s working groups for a common set of five topics: personal names, corporate bodies, seriality, uniform titles and General Materials Designations (GMDs), and multipart items. However, the working notes tend to be sketchy, and there is relatively little interaction between the positions taken or detailed development of arguments for or against them. When it comes to revising the Statement of International Cataloguing Principles, consensus rules.

These volumes are numbers 29, 32, and 35 in the IFLA Series on Bibliographic Control, and also are available as e-books from K.G. Saur. Additional information about the series of IFLA Meetings of Experts on an International Cataloguing Code can be found on the website of the IFLA Cataloguing Section under IME-ICC (www.ifla.org/en/node/576)—Stephen Hearn (s-hear@umn.edu), University of Minnesota, Minneapolis.

References


On first impression, the word “everything” in the subtitle worried me; I am skeptical of such obvious hyperbole. Although a single slim book can not address everything a librarian needs to know about intellectual property, Timothy Lee Wherry has written an excellent introduction to patent, copyright, and trademark issues for librarians. Aspiring inventors, authors, artists, and business people often rely on public and academic libraries for help in researching intellectual property issues, so librarians need to be familiar with common issues and basic search techniques. Despite the legal and technical topics discussed, the text is easy to read, with many examples to illustrate concepts.

Wherry begins by explaining the distinctions between patents, trademarks, and copyright in simple terms. He uses familiar examples, such as Crest toothpaste, as examples of the interplay between different types of intellectual property. The opening chapter also introduces some issues that arise when intellectual property laws must cope with new technologies. Wherry weaves more examples of legal disputes involving patents, copyrights, and trademarks throughout the book, illustrating how courts interpret intellectual property law in new contexts. The varied and current examples are a strength of the book, but unfortunately the author does not provide complete citations or a table of cases. He frequently mentions a case by brief name, such as Field v. Google, without indicating the year or the court that decided the case.

Wherry devotes two chapters each to patents and trademarks. In the first chapter on patents, he discusses the three types of patents granted in the United States, requirements for obtaining a patent, concepts such as expiration and assignees, and patent history. He also discusses and gives examples of hobby patenting, patent trols, and efforts to make inventions profitable after a patent is secured. Librarians may want to share the section on the cost of securing a patent with hobby inventors. Librarians involved in developing policies for disseminating research should read the requirements section carefully; for example, I immediately thought about potential issues in adding dissertations to institutional repositories while reading about the originality requirement.

The second chapter on patents explains how to search U.S. patents online. Wherry points out that the online patent search is a fairly recent innovation and the database lacks many pre–1975 records, but it is useful for helping inventors perform a preliminary search before spending money to travel to a patent depository or hire a patent attorney for a complete search of the paper and microform records. As the author mentions, web pages change frequently, but while some of the screen shots are outdated, I was able to find and perform all the search steps without difficulty. While the book warns librarians not to slip from explaining search strategies to interpreting patents (since patent interpretation is legal advice), I wish this warning had been given earlier and repeated in the context of trademark searching. The author’s experience in working with inventors on patent searches is obvious throughout this chapter; for example, he discusses the importance of keeping thorough search notes, so if a patent attorney is hired later the attorney will not need to duplicate searches.

The two chapters on trademarks are also divided between a discussion of concepts and issues and a step-by-step explanation of how to search trademarks. Librarians working with business people are likely to find these chapters particularly valuable. The concepts chapter explains the difference between state and federal trademarks, the benefits of registering trademarks, and the economic value of trademarks, then discusses controversies involving trademarks, such
as buying up Internet domain names with the intent of selling them to the trademark holder at an inflated price. The search chapter explains how to search for federally registered trademarks using the Patent and Trademark Office’s online database. Step-by-step instructions are given for searching for both word and graphic trademarks. Although the author cautions that screenshots may not match current webpages, I did not notice any differences between the trademark search chapter screenshots and the website when I tried the example searches. While searching state trademarks and unregistered trademarks was beyond the scope of the chapter, the author does mention that Internet search engines can be useful in identifying trademarks in use.

The single chapter on copyright uses photographs, music and other sound recordings, fiction and nonfiction writing, and other creative works as examples of the six rights secured by copyright, suggesting the complexities of applying copyright law in different contexts. Wherry does a good job of introducing the concept of fair use, emphasizing that four factors are balanced in deciding whether a specific use qualifies for the fair use exemption. The brief section on fair use in distance education settings is just enough to alert librarians to the need for further information when developing policies related to electronic reserves, course management software, and online tutorials or classes. Sections on the Conference on Fair Use guidelines, the Digital Millennium Copyright Act, and recent court cases are sufficient to alert librarians to the need to pay attention to changing interpretations of copyright law.

The author explains that copyright registration is no longer required in the United States. Orphan works (that is, works still in their copyright protection period but for which the copyright owner is uncertain), have been a topic of concern to librarians and others in recent years, but the book does not discuss the difficulty a lack of a registration requirement poses for people who want to secure permission to use copyrighted materials. Like many introductions to copyright, this one asserts that “government documents are not copyrighted” (69) without clarifying that while U.S. federal government documents are not copyrighted, state and local government documents are protected by copyright unless the state has decided otherwise.

This chapter is a good orientation to copyright, but most librarians will need more information. Complete Copyright: An Everyday Guide for Librarians and Copyright Law for Librarians and Educators are easily read books targeted at librarians, but the slightly more technical but comprehensive Distance Learning and Copyright is an essential reference for librarians who deal with copyright issues extensively.1

The book includes two appendices and an index. The first appendix consists of Yehuda Berlinger’s verse versions of the copyright, patent, and trademark codes. Wherry says he finds these verses, with stanzas headed by the relevant code reference, useful in locating specific statutes. The second appendix is a list of patent and trademark depository libraries by state. The index is fairly good; I was able to find references to terms such as “cybersquatting” and mechanical patents, company names, court cases, and major laws, but there was no cross-reference from lawyer to attorney. A bibliography of suggested readings would have been a useful addition, as would a table of cases mentioned in the text.

This slim book is an excellent brief introduction to intellectual property issues for librarians and library staff. The step-by-step explanations of searching free online patent and trademark databases will be useful in most public, academic, and special libraries.—Ginger Williams (ginger.williams@wichita.edu), Wichita State University, Wichita, Kansas.

References


The SPEC Kit series, published by the Association of Research Libraries (ARL), serves the unique purpose of providing current research library practices and policies guides for working librarians. Scholarly Communication Education Initiatives, SPEC Kit 299, surveys ARL libraries on scholarly communication education initiatives with the purpose of finding out “what kind of initiatives ARL member libraries have used or plan to use to educate faculty, administrators, students, and library staff at their institutions about scholarly communication issues” (19).

The survey was conducted in May 2007, and since then there has been a flurry of activity to start education programs in academic libraries. Despite the fact that the book was published two years ago, it provides useful information that could help libraries who are planning or newly implementing a scholarly communication education program. Without a doubt, most (if not all) library administrators are grappling with how to best instruct their librarians on these complex issues, with the intention that librarians will in turn educate others in their academic community.

This book focuses primarily on which person or group is spearheading education efforts and how they
are doing so in regards to six targeted audience groups: faculty, nonfaculty researchers, institutional administrators, graduate students, undergraduates, and librarians or library staff. The 123 ARL member libraries were surveyed, with a 59 percent response rate, and 55 of the libraries indicated they had engaged in scholarly communication education activities. As with all SPEC Kits, this one is composed of three parts: “Survey Results,” “Representative Documents,” and “Selected Resources.”

“Survey Results” begins with an executive summary that painstakingly covers each of the six audience groups noted earlier. The survey asked respondents to answer the same set of questions for each targeted group; it is likely that the authors were looking for granularity and diversity between the groups, but there were not significant differences between the groups regarding the topics addressed in the outreach efforts. (One-on-one conversations were the most effective forms of outreach to the most audience groups, with the exception of education librarians, where formal presentations were used most often). For each audience group, the authors detail the scholarly communication topics addressed and the methods by which librarians conducted their outreach efforts. While there could be redundancy in such a presentation, the authors include quotations and comments from respondents that enhance the numbers and put them in context. This adds considerable interest and value to the summary. (The executive summary is free on ARLs website, www.arl.org/bm-doc/spec299web.pdf).

The most interesting portion of the executive summary addresses challenges related to education initiatives and outlines barriers to educating library users and staff. Helpful to anyone considering or conducting outreach efforts, knowing existing challenges is important. As expected, educating faculty presents the broadest range of challenges, ranging from concerns about promotion and tenure to a lack of interest in the issues and satisfaction with the status quo. Additionally, no respondents indicated success in “alleviating faculty concerns about the effects of open access publishing on promotion and tenure” (17). However, given that in just two short years we have seen faculty senates at several prominent universities mandate open access for their institution’s intellectual output, the concerns about open access may be waning, which is good news for education initiatives. The survey identified that the “biggest challenge for librarians revolved around having adequate staff, time, and funding to devote to an SC campaign” (15). Given the budget woes that all academic institutions are currently facing, the challenge of staffing will not likely be alleviated any time soon.

“Survey Results” includes a segment called “Survey Questions and Responses,” which is worth browsing to see the free-text responses from the respondents. Some of these responses are excerpted in the executive summary, but reading them in their entirety is revealing, though it does require some effort to put the comment in the context of the question asked.

The “Representative Documents” section constitutes about thirty-five pages of the book and serves to highlight the most useful and illustrative documents related to the topic of the survey. The documentation includes position descriptions for scholarly communication librarians, websites and blogs on scholarly communication and copyright, newsletter examples, and presentation materials. Many of these are screen shots from the Web, which are less than desirable to read on paper, but which serve to capture the content as URLs and Web content can change rapidly. Unfortunately, in the copy I read, some of the websites are difficult to read because the print is too light and the font is too small. Most useful are the presentation slides that cover topics such as “Faculty/Author Advocacy” and “Publishing Issues: Access and Today’s Publishing Environment.”

The final section of the SPEC Kit, “Selected Resources,” offers a healthy list of articles and reports that address many issues related to scholarly communication, providing an excellent bibliography for either novices who want to learn about the basics of scholarly communication or experts who are looking for additional articles that they may not have read. In particular, there is spectrum of articles addressing faculty and researcher perceptions of the publishing environment. The selected resources also contain quite a few links to brochures, committee charges, and scholarly communication websites. Some of the links to university web-pages no longer work, but no matter — there are still many working links to helpful information and examples.

Scholarly Communication Education Initiatives provides a practical assessment of the status of scholarly communication education initiatives in 2007; the fact that this book was published two years ago does not detract from the value of the work. While reading survey results can be a tedious task, it is not so in this case. For readers who want practical information on directions to take in initiating a scholarly communication program, the kit offers ample information. For others, it offers gems here and there that may inform their current scholarly communication endeavors, and it is definitely worth a look.—Karen Fischer (karen-fischer@uiowa.edu), University of Iowa, Iowa City.
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