# 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.*

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Submitted April 21, 2009; returned to authors May 25 with request to revise and resubmit; resubmitted July 9, reviewed, and accepted for publication.

The authors gratefully acknowledge the survey pre-testers for their helpful feedback; Gary Frost for the idea that sparked this research; Alberto Campagnolo for sharing his study on European book repair practices; Tom Lehman for technical help with the online survey; Kristen St. John, Ann Frellsen, and Roberta Pilette for reading drafts of this article and providing valuable comments; and everyone who responded to the survey. The survey was supported in part by a 2007 University of Kansas Library Research Fund award. Preliminary results of this research were presented at the 2008 annual meeting of the American Institute for Conservation

The field of research library conservation emerged and has evolved significantly during the past fifty years. Professional organizations and training programs have been established; new treatment techniques have been developed and promoted through conferences, workshops, and publications; and increasingly, special and general collections practitioners have collaborated on treatment solutions. Despite the significant challenges faced by research libraries in the twenty-first century as substantial resources are allocated to electronic information discovery and delivery opportunities, research libraries continue to collect print collections. For example, within the Association of Research Libraries (ARL), the median number of monographs purchased per year by ARL member libraries rose slightly over the period 1987–2007.[1] Furthermore, the recent ARL report, "Safeguarding Collections at the Dawn of the 21st Century," which describes how libraries are confronting the challenges of preserving collections in the digital age, affirms the ongoing importance of local conservation treatment, suggesting that the concerted effort to promote and enhance access to "hidden" collections "will lead to increased need for stabilizing artifacts (particularly preceding digitization), repairs, exhibit preparation, and complex conservation treatments in preparation for, or in response to, increased use."[2]

Despite the continuing need for conservation and the dramatic growth and definition within the field, there has been no comprehensive assessment

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."[3] 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.[4] 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."[5] 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]."[6]

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]."[7] 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.[8] 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).[9] 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.[10] Especially significant was the first degree-granting program in library preservation and conservation, established at Columbia University/New York University in 1981.[11] 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.[12] 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.[13] 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."[14] 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 artifactual 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."[15] 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."[16]

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. Formed by Maria Grandinette and Randy Silverman, LCCDG strove to "foster improvements in the management and implementation of conservation programs for non-rare library collections."[17] 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."[18] Meanwhile, a new crop of book repair guides and training programs had emerged, helping to standardize treatment practices for general collections.[19]

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.[20] 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.[21] 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.[22]

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."[23] 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."[24] 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."[25] 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.[26] 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.[27]

## 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.[28] 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.[29]

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:

(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 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.[38] 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) standard practice, frequent; (2) standard practice, occasional; (3) anomalous use only; (4) never; and (5) not sure. Following each category of treatment, respondents were invited to list other treatments in a free-text field.

Three rounds of survey pretesting refined the treatments, treatment definitions, and "treatment frequency" response options. The authors pretested the survey instrument extensively—in both PC and Mac environments and on multiple Web browsers—to ensure it displayed and functioned well. In addition, twelve colleagues helped identify and eliminate unclear terminology and technical concerns; these pretesters included conservators and technicians, as well as hybrid practitioners and those working solely with special or general collections. Most were from large libraries, all were from the United States, and eleven were from ARL libraries.

### Survey Implementation

To reach many research library conservation and repair facilities, the authors widely distributed an invitation to participate in the survey via e-mail lists and Web groups serving conservation and preservation professionals: the Conservation Distribution (e-mail) List, the American Library Association's Preservation Administrators Discussion Group (PDDG) e-mail list, the Guild of Book Workers e-mail list, "Conservators and Restorers Unite" Facebook group, Restauro del Libro Yahoo! e-group, and the University of Texas at Austin Kilgarlin Center for Preservation of the Cultural Record (formerly Preservation and Conservation Studies for Libraries and Archives program) students and alumni e-mail list. To encourage participation and candor, respondent anonymity was assured. Although contact information was collected from respondents who indicated willingness to participate in a follow-up study, it was not associated with any other collected data. The survey period ran from August 22 to September 30, 2007.

## 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).

**Table 1.** Demographic Characteristics and Number of Treatment Cases

| Respondents | | Responses | | |
|---|---|---|---|---|
| Type | No. | Special Collections | General Collections | Total |
| Hybrid practitioners | 43 | 43 | 43 | 86 |
| Special collections only | 14 | 14 | - | 14 |
| General collections only | 16 | - | 16 | 16 |
| Total | 73 | 57 | 59 | 116 |

**Table 2.** Respondents' Institutions (*n* = 73)

| Question | Response | No. | % |
|---|---|---|---|
| Size of institution | Less than 2 million volumes | 24 | 33 |
| | 2–5 million volumes | 28 | 38 |
| | More than 5 million volumes | 21 | 29 |
| Type of U.S. research library | ARL | 59 | 81 |
| | Non–ARL | 14 | 19 |
| Type of conservation/repair facilities | Special collections only | 2 | 3 |
| | General collections only | 7 | 10 |
| | Centralized/hybrid facility | 48 | 66 |
| | Separate facilities | 15 | 21 |
| | Other | 1 | 1 |
| Year facility was built or last renovated | 2000s | 32 | 44 |
| | 1990s | 16 | 22 |
| | 1980s | 10 | 14 |
| | Pre–1980 | 10 | 14 |
| | N/A | 5 | 7 |

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

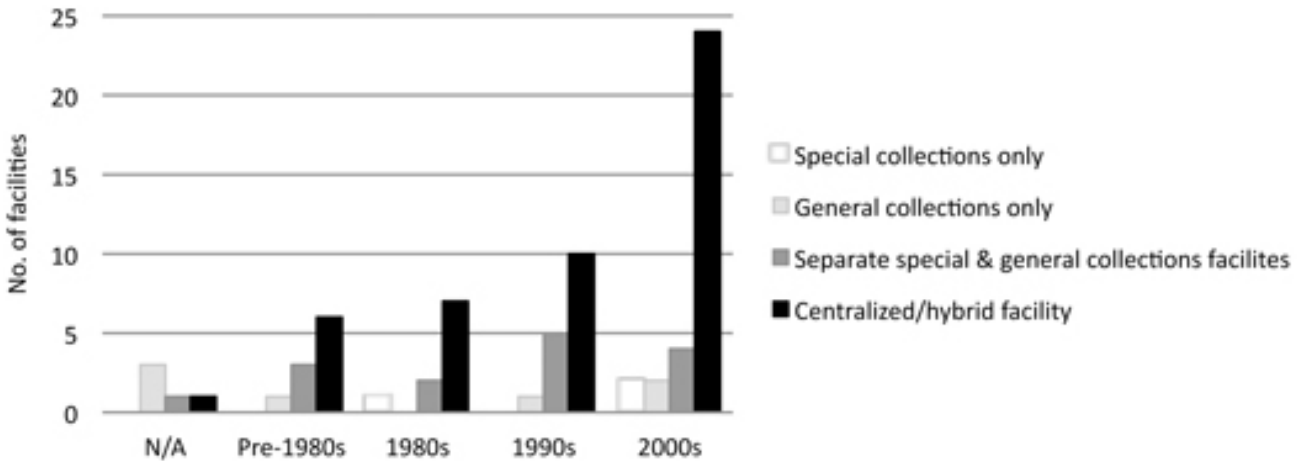


**Figure 1.** Facility Type and Year Renovated (*n* = 73)

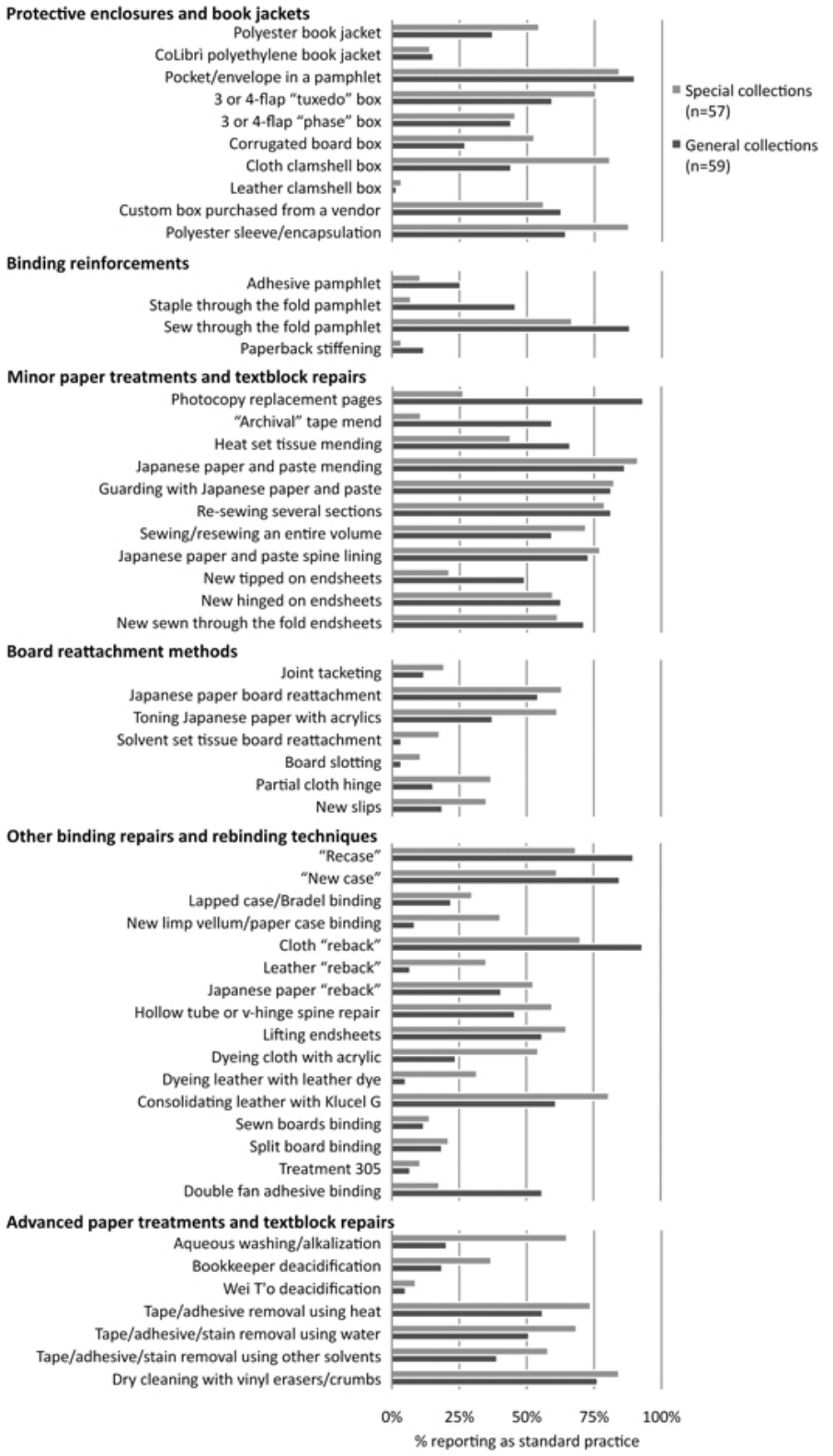


**Figure 2.** Comparison of Treatment Practices Employed for Special Collections and General Collections

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": CoLibrì 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 [Δ] 37 percentage points). Four additional enclosures were found to be significantly more common to special collections: corrugated board box (Δ 26 percent points), polyester sleeve or encapsulation (Δ 23 percent points), polyester book jacket (Δ 17 percent points), and tuxedo box (Δ 16 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 reattachments" 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 reattachments, 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.[39] 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" (88 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

**Table 3.** Treatments Reported As Standard Practice by ≥ 75% of Conservation Units

| Special Collections | | General Collections | |
|---|---|---|---|
| **Treatment** | **%** | **Treatment** | **%** |
| Japanese paper and paste mending* | 91 | Photocopy replacement pages | 93 |
| Polyester sleeve/encapsulation | 88 | Cloth "reback" | 93 |
| Pocket/envelope in a pamphlet* | 84 | Pocket/envelope in a pamphlet* | 90 |
| Dry cleaning with vinyl erasers/crumbs* | 84 | "Recase" | 90 |
| Guarding with Japanese paper and paste* | 82 | Sew through the fold pamphlet | 88 |
| Consolidating leather with Klucel G | 81 | Japanese paper and paste mending* | 86 |
| Cloth clamshell box | 81 | "New case" | 85 |
| Resewing several sections* | 79 | Guarding with Japanese paper and paste* | 81 |
| Japanese paper and paste spine lining | 77 | Resewing several sections* | 81 |
| 3- or 4-flap "tuxedo" box | 75 | Dry cleaning with vinyl erasers/crumbs* | 76 |

* Reported as standard practice for both special and general collections

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 in particular, "hands-on repair and conservation treatments are not a significant activity."[42] 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 indispensible *Paper Conservation Catalog*.[43] 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


1. Mark Young and Martha Kyrillidou, *ARL Statistics, 2006–07: A Compilation of Statistics from the Members of the Association of Research Libraries* (Washington, D.C.: Association of Research Libraries, 2008).
2. Lars Meyer, *Safeguarding Collections and the Dawn of the 21st Century: Describing Roles and Measuring Contemporary Preservation Activities in ARL Libraries* (Washington, D.C.: Association of Research Libraries, 2009): 19.
3. Sherelyn Ogden, "Impact of the Florence Flood on Library Conservation in the United States of America: A Study of the Literature Published 1956–1976," *Restaurator* 3, no. 1–2 (1979): 22.
4. Ibid., 17.
5. Peter Waters, "Phased Preservation: A Philosophical Concept and Practical Approach to Preservation," *Special Libraries* 81, no. 1 (1990): 36.
6. Ibid., 37.
7. Maria Grandinette and Randy Silverman, "Book Repair in the USA: A Library-Wide Approach to Conservation," in *La conservation: Une science en evolution. Bilan et perspectives: Actes des troisièmes journées internationals d'études de L'ARSAG, Paris, 21–25 Avril 1997* (Paris: ARSAG, 1997): 276.
8. George Cunha, *Conservation of Library Materials* (Metuchen, N.J.: Scarecrow, 1967); Carolyn Horton, *Cleaning and Preserving Bindings and Related Materials* (Chicago: ALA, 1967).
9. Ellen McCrady, "In Memoriam: Paul N. Banks 1934–2000," *Abbey Newsletter* 24, no. 1 (2000): 4.
10. Pamela Darling and Sherelyn Ogden, *From Problems Perceived to Programs in Practice: The Preservation of Library Resources in the U.S.A., 1956–1980* (Chicago: ALA, 1981).
11. Paul Banks, "Education in Library and Archives Conservation," in *Preprints of Papers Presented at the Tenth Annual Meeting* (Washington, D.C.: American Institute for Conservation, 1982): 1–9.
12. Darling and Ogden, "From Problems Perceived."
13. Grandinette and Silverman, "Book Repair in the USA."
14. Ibid., 275.
15. Paul N. Banks, "A Library is Not a Museum," in *Training in*

*Conservation*, ed. Norman Baer (New York: Institute of Fine Arts, New York University, 1989): 62–63.

16. Jan Merrill-Oldham and Nancy Carlson Schrock, "The Conservation of General Collections," in *Preservation Issues and Planning*, ed. Paul N. Banks and Roberta Pilette (Chicago: ALA, 2000): 228.
17. Maria Grandinette and Randy Silverman, "The Library Collections Conservation Discussion Group: Taking a Comprehensive Look at Book Repair," *Library Resources & Technical Services* 38 (1994): 282.
18. Merrill-Oldham and Schrock, "The Conservation of General Collections," 235.
19. Carolyn Clark Morrow, *Conservation Treatment Procedures* (Littleton, Colo.: Libraries Unlimited, 1982); Jane Greenfield, *Books: Their Care and Repair* (New York: H.W. Wilson, 1984); Robert J. Milevski, *Book Repair Manual* (Carbondale, Ill.: Illinois Cooperative Conservation Program, 1984); Hedi Kyle, *Library Materials Preservation Manual* (Bronxville, N.Y.: Nicholas T. Smith, 1986); Maralyn Jones, ed., *Collection Conservation Treatment: A Resource Manual for Program Development and Conservation Technician Training* (Berkeley: Conservation Department, the Library, University of California, Berkeley, 1993).
20. Grandinette and Silverman, "Book Repair in the USA," 279.
21. Highlights from the extensive literature on board reattachments include Anthony Cains and Katherine Swift, *Preserving Our Printed Heritage: The Long Room Project at Trinity College* (Dublin: Trinity College Library, 1988); Robert Espinosa and Pamela Barrios, "Joint Tacketing: A Method of Board Reattachment," *Book and Paper Group Annual* 10 (1991): 78–83; Christopher Clarkson, "Board Slotting: A New Technique for Re-Attaching Bookboards," in *Conference Papers, Manchester 1992*, ed. Sheila Fairbrass (London: Institute for Paper Conservation, 1992): 158–73; Don Etherington, "Japanese Paper Hinge Repair, for Loose Boards on Leather Books," *Abbey Newsletter* 19, no. 3 (1995): 48–49; Donia Conn, "Board Reattachment for Circulating Collections: A Feasibility Study," *Book and Paper Group Annual* 15 (1996): 29–40; Maria Fredericks and Ethel Hellman, "Board Reattachment Discussion," *Book and Paper Group Annual* 20 (2001): 63–86; David Brock, "Tips and Techniques: Board Reattachment," *Guild of Book Workers Newsletter* 138 (Oct. 2001): 14–15; and Priscilla Anderson and Alan Puglia, "Solvent-Set Book Repair Tissue," *Book and Paper Group Annual* 22 (2003): 3–8. Examples of articles on limp paper and lapped case structures include Gary Frost, "Historical Paper Case Binding and Conservation Rebinding," *New Bookbinder* 2 (1982): 64–67; Gary Frost, "Conservation Paper Cover and Case Construction Rebinding," *Guild of Book Workers Journal* 22, no. 1 (1983): 29–38; and Brian Baird and Mick LeTourneaux, "Treatment 305: A Collections Conservation Approach to Rebinding," *Book and Paper Group Annual* 13 (1994): 1–4.
22. Randy Silverman and Maria Grandinette, "Checklist of Primary Bibliographical Evidence Contained in Nineteenth and Early Twentieth-Century Publishers' Bookbindings" (handout, American Institute for Conservation Library Collections Conservation Discussion Group meeting, St. Paul, Minnesota, 1995); Rare Book School, "B-90. Publishers' Bookbindings, 1830–1910: Sue Allen" (University of Virginia, 2008), www.rarebookschool.org/courses/binding/b90 (accessed Oct. 29, 2008).
23. Gary Frost, "Integrated Book Repair," *Archival Products News* 7, no. 3 (Fall/Winter 1999–2000): 1.
24. Ibid., 2.
25. Alberto Campagnolo, "Il book repair come disciplina integrata: Analisi dell'esperienza in Nord America e confronto con l'approccio europeo [Book Repair as an Integrated Discipline: Analysis of the Experience in North America and Comparison with the European Approach]" (thesis, Università "Cà Foscari" di Venezia, 2005): 300.
26. Whitney Baker, "The Hybrid Conservator: An Overview of Challenges in a Research Library Environment," *Library Resources & Technical Services* 48, no. 3 (2004): 179–90.
27. Roberta Pilette, "Book Conservation within Library Preservation," in *The Changing Book: Transitions in Design, Production, and Preservation*, ed. Nancy Kraft and Holly Martin Huffman (Binghamton, N.Y.: Haworth, 2006): 224.
28. Mark Young and Martha Kyrillidou, *ARL Preservation Statistics, 2005-06: A Compilation of Statistics from the Members of the Association of Research Libraries* (Washington, D.C.: Association of Research Libraries, 2008).
29. Anne Kenney and Deirdre C. Stam, *The State of Preservation Programs in American College and Research Libraries: Building a Common Understanding and Action Agenda* (Washington, D.C.: Council on Library and Information Resources, 2002).
30. See, for example, Gay Walker et al., "The Yale Survey: A Large-Scale Condition Survey of Book Deterioration in the Yale University Library," *College & Research Libraries* 46, no. 2 (Mar. 1985): 111–31; Paul Sheehan, "A Condition Survey of Books in Trinity College Library, Dublin," *Libri* 40, no. 4 (1990): 306–17; Paul Green, "A Method for Undertaking a Full Conservation Audit of Special Collections Books and Manuscripts," *Collection Management* 28, no. 4 (2004): 23–42; and Jennifer Hain Teper and Sarah M. Erekson, "The Condition of our 'Hidden' Rare Book Collections: A Conservation Survey at the University of Illinois at Urbana-Champaign," *Library Resources & Technical Services* 50, no. 3 (2006): 200–13.
31. Bronwen Evans, "The Duke Humfrey's Library Project: Using an Item-by-Item Survey to Develop a Conservation Programme," *Paper Conservator* 17 (1993): 39–44.
32. Graham Matthews, "Surveying Collections: The Importance of Condition Assessment for Preservation Management," *Journal of Librarianship and Information Science* 27, no. 4 (1995): 231.
33. Paul Conway, "Archival Preservation Practice in a Nationwide Context," *American Archivist* 53, no. 2 (Spring 1990): 220; Tyler O. Walters and Ivan E. Hanthorn, "Special Collections Repositories at Association of Research Libraries Institutions: A Study of Current Practices in Preservation Management," *American Archivist* 61, no. 1 (1998): 158–86; Paula De Stefano and Tyler O. Walters, "A Natural Collaboration: Preservation for Archival Collections in ARL Libraries," *Library Trends* 56, no.1 (2007): 230–58.

34. Patricia K. Turpening, "Survey of Preservation Efforts in Law Libraries," *Law Library Journal* 94, no. 3 (2002): 363–93.
35. Wole Michael Olatokun, "A Survey of Preservation and Conservation Practices and Techniques in Nigerian University Libraries," *Libres* 18, no. 2 (2008): 8.
36. Clara Keyes, "Book Repair Survey: Circulating Collections" (1996), http://palimpsest.stanford.edu/byauth/keyes/keyessrv.html (accessed Dec. 16, 2008).
37. Alberto Campagnolo, "Il book repair come disciplina integrata."
38. Ibid.
39. Mick P. Couper, "Web Surveys: A Review of Issues and Approaches," *Public Opinion Quarterly* 64, no. 4 (2000): 464–94.
40. Kenny and Stam, *The State of Preservation Programs*.
41. Young and Kyrillidou, *ARL Preservation Statistics, 2005–06*; Mark Young and Martha Kyrillidou, *ARL Statistics, 2005–2006: A Compilation of Statistics from the One Hundred and Twenty-Three Members of the Association of Research Libraries* (Washington, D.C.: Association of Research Libraries, 2008).
42. Kenny and Stam, *The State of Preservation Programs*, 20.
43. Book and Paper Group of the American Institute for Conservation of Historic and Artistic Works, *Paper Conservation Catalog* (Washington, D.C.: American Institute for Conservation of Historic and Artistic Works, 1984–94), www.conservation-wiki.com/index.php?title=Paper_Conservation_Catalog (accessed Nov. 15, 2009).

**Statement of Ownership, Management, and Circulation**

*Library Resources & Technical Services*, Publication No. 311-960, is published quarterly by the Association for Library Collections & Technical Services, American Library Association, 50 E. Huron St., Chicago (Cook), Illinois 60611-2795. The editor is Peggy Johnson, University of Minnesota, 499 Wilson Library, 309 19th Ave. South, Minneapolis, MN 55455. Annual subscription price, $85.00. Printed in U.S.A. with periodicals-class postage paid at Chicago, Illinois, and at additional mailing offices. As a nonprofit organization authorized to mail at special rates (DMM Section 424.12 only), the purpose, function, and nonprofit status of this organization and the exempt status for federal income tax purposes have not changed during the preceding twelve months.

(Average figures denote the average number of copies printed each issue during the preceding twelve months; actual figures denote actual number of copies of single issue published neared to filing date: July 2009 issue.) Total number of copies printed: average, 5,747; actual, 5,610. Paid distribution outside the mails including sales through dealers and carriers, street vendors, counter sales, and other paid distribution outside the USPS: average, 460; actual, 434. Total paid distribution: average, 5,197; actual, 4,996. Free or nominal rate copies mailed at other classes through the USPS (e.g. First-Class mail): average, 50; actual, 52. Free or nominal rate distribution outside the mail (carriers or other means): average, 180; actual, 174. Total free or nominal rate distribution: average, 230; actual, 226. Office use, leftover, unaccounted, spoiled after printing: average, 320; actual, 388. Total: average, 5,427, actual, 5,222. Percentage paid: average, 95.76; actual, 95.67.

Statement of Ownership, Management and Circulation (PS Form 3526, September 2007, for 2007/2008 filed with the United States Post Office Postmaster in Chicago, October 1, 2009.

## 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**

| | Standard Practice, Frequent | Standard Practice, Occasional | Anomalous Use Only | Never | Not Sure |
|---|---|---|---|---|---|
| Polyester book jacket | ❍ | ❍ | ❍ | ❍ | ❍ |
| CoLibrì polyethylene book jacket | ❍ | ❍ | ❍ | ❍ | ❍ |
| Pocket, envelope, or 3- or 4-flap folder in pamphlet binder | ❍ | ❍ | ❍ | ❍ | ❍ |
| 3- or 4-flap "tuxedo" box (tongue & slot closure) | ❍ | ❍ | ❍ | ❍ | ❍ |
| 3- or 4-flap "phase" box (rivet & string closure) | ❍ | ❍ | ❍ | ❍ | ❍ |
| Corrugated board box | ❍ | ❍ | ❍ | ❍ | ❍ |
| Cloth covered clamshell box | ❍ | ❍ | ❍ | ❍ | ❍ |
| Leather covered clamshell box | ❍ | ❍ | ❍ | ❍ | ❍ |
| Fitting books with custom-sized boxes purchased from a vendor | ❍ | ❍ | ❍ | ❍ | ❍ |
| Polyester sleeves and/or encapsulation | ❍ | ❍ | ❍ | ❍ | ❍ |

Other protective enclosures and/or book jackets:

**Binding Reinforcements**

| | Standard Practice, Frequent | Standard Practice, Occasional | Anomalous Use Only | Never | Not Sure |
|---|---|---|---|---|---|
| Pamphlet binding, adhesive attachment | ❍ | ❍ | ❍ | ❍ | ❍ |
| Pamphlet binding, staple through the fold | ❍ | ❍ | ❍ | ❍ | ❍ |
| Pamphlet binding, sew through the fold | ❍ | ❍ | ❍ | ❍ | ❍ |
| Paperback stiffening | ❍ | ❍ | ❍ | ❍ | ❍ |

Other binding reinforcements:

**Minor Paper Treatments and Textblock Repairs**

| | Standard Practice, Frequent | Standard Practice, Occasional | Anomalous Use Only | Never | Not Sure |
|---|---|---|---|---|---|
| Creating/inserting photocopy replacement pages | ❍ | ❍ | ❍ | ❍ | ❍ |
| Mending with "archival" tape (e.g., Filmoplast, Archival Aids) | ❍ | ❍ | ❍ | ❍ | ❍ |
| Mending with heat set tissue | ❍ | ❍ | ❍ | ❍ | ❍ |
| Mending with Japanese paper & paste | ❍ | ❍ | ❍ | ❍ | ❍ |
| Guarding sections with Japanese paper & paste | ❍ | ❍ | ❍ | ❍ | ❍ |
| Resewing several sections | ❍ | ❍ | ❍ | ❍ | ❍ |
| Sewing or resewing an entire volume | ❍ | ❍ | ❍ | ❍ | ❍ |
| Barrier spine lining of Japanese paper & paste | ❍ | ❍ | ❍ | ❍ | ❍ |
| New tipped-on endsheets | ❍ | ❍ | ❍ | ❍ | ❍ |

**Minor Paper Treatments and Textblock Repairs (cont.)**

| | Standard Practice, Frequent | Standard Practice, Occasional | Anomalous Use Only | Never | Not Sure |
|---|---|---|---|---|---|
| New hinged-on endsheets | ❍ | ❍ | ❍ | ❍ | ❍ |
| New sewn-through-the-fold endsheets | ❍ | ❍ | ❍ | ❍ | ❍ |

Other minor paper treatments and textblock repairs:

**Board Reattachment Methods**

| | Standard Practice, Frequent | Standard Practice, Occasional | Anomalous Use Only | Never | Not Sure |
|---|---|---|---|---|---|
| Joint tacketing (Espinosa) | ❍ | ❍ | ❍ | ❍ | ❍ |
| Japanese paper board reattachment (Etherington) | ❍ | ❍ | ❍ | ❍ | ❍ |
| Toning Japanese paper with acrylics for board reattachment or binding repair | ❍ | ❍ | ❍ | ❍ | ❍ |
| Solvent set tissue board reattachment (Anderson & Puglia) | ❍ | ❍ | ❍ | ❍ | ❍ |
| Board slotting (Clarkson) | ❍ | ❍ | ❍ | ❍ | ❍ |
| Partial cloth hinge (Brock) | ❍ | ❍ | ❍ | ❍ | ❍ |
| New slips | ❍ | ❍ | ❍ | ❍ | ❍ |

Other board reattachment methods:

**Other Binding Repair and Rebinding Techniques**

| | Standard Practice, Frequent | Standard Practice, Occasional | Anomalous Use Only | Never | Not Sure |
|---|---|---|---|---|---|
| "Recase" | ❍ | ❍ | ❍ | ❍ | ❍ |
| "New case" | ❍ | ❍ | ❍ | ❍ | ❍ |
| Lapped case/Bradel binding | ❍ | ❍ | ❍ | ❍ | ❍ |
| New limp vellum and/or limp paper case binding | ❍ | ❍ | ❍ | ❍ | ❍ |
| Cloth "reback" | ❍ | ❍ | ❍ | ❍ | ❍ |
| Leather "reback" | ❍ | ❍ | ❍ | ❍ | ❍ |
| Japanese paper "reback" | ❍ | ❍ | ❍ | ❍ | ❍ |
| Reattaching detached spines with a hollow tube or v-hinge | ❍ | ❍ | ❍ | ❍ | ❍ |
| Lifting endsheets to save original pastedown endsheets | ❍ | ❍ | ❍ | ❍ | ❍ |
| Dyeing cloth with acrylics for binding repairs | ❍ | ❍ | ❍ | ❍ | ❍ |
| Dyeing leather with leather dye for binding repairs | ❍ | ❍ | ❍ | ❍ | ❍ |
| Consolidating leather with Klucel-G | ❍ | ❍ | ❍ | ❍ | ❍ |
| Sewn boards binding (Frost) | ❍ | ❍ | ❍ | ❍ | ❍ |

**Other Binding Repair and Rebinding Techniques (cont.)**

| | Standard Practice, Frequent | Standard Practice, Occasional | Anomalous Use Only | Never | Not Sure |
|---|---|---|---|---|---|
| Split board binding | ❍ | ❍ | ❍ | ❍ | ❍ |
| "Treatment 305" (Baird & LeTourneaux) | ❍ | ❍ | ❍ | ❍ | ❍ |
| Double-fan adhesive binding | ❍ | ❍ | ❍ | ❍ | ❍ |

Other binding repair and rebinding techniques:

**Advanced Paper Treatments Performed on Books/Bound Volumes**

| | Standard Practice, Frequent | Standard Practice, Occasional | Anomalous Use Only | Never | Not Sure |
|---|---|---|---|---|---|
| Aqueous washing/alkalization | ❍ | ❍ | ❍ | ❍ | ❍ |
| Bookkeeper deacidification (in-house) | ❍ | ❍ | ❍ | ❍ | ❍ |
| Wei T'o deacidification | ❍ | ❍ | ❍ | ❍ | ❍ |
| Tape/adhesive removal using heat | ❍ | ❍ | ❍ | ❍ | ❍ |
| Tape/adhesive/stain removal using water (e.g., methyl cellulose) | ❍ | ❍ | ❍ | ❍ | ❍ |
| Tape/adhesive/stain removal using other solvents | ❍ | ❍ | ❍ | ❍ | ❍ |
| Dry cleaning with vinyl erasers and/or vinyl eraser crumbs | ❍ | ❍ | ❍ | ❍ | ❍ |

Other advanced paper treatments:

## 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.

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