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The Impact of Training and Institutional Context on Book Conservation Practices

ABSTRACT

A web-based survey of book conservation treatment practices in research libraries was conducted in 2007. Survey results were summarized in a 2010 report that documented standard practice, moderate-use, and low-use book conservation treatments for special collections and general collections in research libraries in the United States. Similarities and differences between special and general collections practices were highlighted.

In an effort to better understand the differences in practices observed in the first report, the authors revisit the data to identify whether, and how, the demographic characteristics of book conservation practitioners are correlated with particular treatment practices. Noting the trend suggested in the literature toward both hybrid facilities—those dedicated to both special and general collections—as well as hybrid practitioners, the authors were especially curious whether such facilities and practitioners might approach treatment differently. The data collected in 2007 were analyzed to identify whether key demographic variables—such as practitioner training, type of collections served by a practitioner, size of library, type of library, and type of conservation facility—were correlated with specific treatment practices. In this report, specific trends associated with the demographic variables are identified and explored. Areas of further research suggested by the results of the study are identified.

INTRODUCTION

This paper is the second of two reports emanating from a study of book conservation practices in research libraries. The study—which centered on a 2007 survey of conservation practitioners that gathered information about the types of book conservation treatments practiced in research libraries, along with detail about the survey respondents' training and institutional contexts—had three research goals: 1) to document standard practices in research library book conservation, 2) to identify similarities and differences between special and general collections practices, and 3) to determine whether demographic characteristics of conservation practitioners are associated with particular treatment practices.

Addressing the first two goals, the first report identified standard practices for book conservation in research libraries, and highlighted similarities and differences between practices applied to special collections and those used for general collections (Baker and Dube 2010). The report established and defined a list of common book conservation treatments for special and general collections, and provided data on the use of such treatments, documenting standard practice, moderate-use, and low-use book treatments and techniques for special and general collections at the beginning of the twenty-first century. While significant similarities and differences were identified between practices applied to special collections and those applied to general collections, the authors concluded that, overall, "treatment practices for special and general collections are more similar than different" (Baker and Dube 2010, 28).

At the same time, the data revealed significant variance in practice across conservation facilities, which led the authors to conclude that "an overwhelmingly uniform application of techniques across research library conservation units does not exist" (Baker and Dube 2010, 28–29). Curiosity about this observation fueled further analysis of the data, which dovetailed with the third goal of the research.

This second report addresses the third research goal—to determine whether demographic characteristics of respondents are associated with particular treatment practices—and in doing so aims to shed light on the relative lack of uniformity of practices observed in the first report. The survey data are analyzed to identify whether relationships exist between the respondents' demographic characteristics and their reported book conservation treatment practices. The demographic variables studied include level of practitioner training, type(s) of collections served by a practitioner, size of library, type of library, and type of conservation facility.

Independent submission.

LITERATURE REVIEW

In a review of the literature pertaining to the evolution of book conservation practices in research libraries, the authors' 2007 report documents a trend toward greater collaboration among conservation practitioners and increasingly similar special and general collections treatment approaches, ultimately concluding that conservation has "showed signs of moving beyond separate approaches to treatment (i.e., special versus general collections) toward a more nuanced methodology" (Baker and Dube 2010, 23). Among those describing and promoting more integrated approaches to damaged collection review and treatment are Kellar (1990), Frost (1999–2000), and Pilette (2006). Kellar describes the conservator's role as "[transformed] from the restoration expert for antiquarian books to the Collections Conservator of the modern research library" (1990, 8). In an assessment of the evolution of conservator's roles, Baker's 2004 survey of U.S. conservators found that positions for "hybrid" conservators—those responsible for both general and special collections treatment—have increased steadily (Baker 2004). Frost advocates a holistic treatment model that physically integrates special and general collections treatment facilities, incorporating "a middle zone of conservation practice. . . [in which] the 'exception' category now appears key to a seamless, integrated book repair service" (1999–2000, 2). Similarly, Pilette's "continuum of care" approach to preservation and conservation suggests that a range of selection criteria, beyond the special versus general collections dichotomy, should be incorporated into decision-making processes (2006). The United States is not alone in observing a narrowing gap between the treatment of special and general collections; a 2005 study of European book repair practices notes that newly developed treatments "came to bridge the gap between special collections item-based conservation, and circulating collections batch-based conservation" (Campagnolo 2005, 330).

Given such observations and evidence, the authors were particularly interested—through this analysis of the demographic characteristics of the survey respondents and their treatment practices—to discover whether hybrid practitioners and hybrid facilities shared a unique approach to treatment.

SURVEY METHOD

In August and September of 2007 a survey was conducted of practitioners of book conservation and repair in research libraries. The anonymous, six-page, web-based survey gathered information about the respondents, their institutions, and their book conservation treatment practices. Key elements of the survey methodology are provided here; additional details may be found in the first report (Baker and Dube, 2010). The survey instrument is provided as Appendix A.

The survey instrument defined the survey audience as "the individual(s) with primary responsibility for book conservation and/or repair," qualifying that "institutions with multiple conservation/repair units may respond once for the entire institution or individually for each unit." Responses from multiple facilities at a single institution were therefore permitted, while multiple responses from a single facility were not. The survey gathered basic demographic information about the respondents and their institutions, including their job titles, training, type(s) of collections served, institution sizes, and the ages and scope of their conservation facilities. Individuals with responsibility for one type of collection—i.e., special collections *or* general collections—were asked to complete one page of treatment questions, while respondents with responsibility for *both* special collections *and* general collections received two pages of questions, one for each type of collection.

The fifty-five treatments included in the survey were selected based on a literature review of special and general collections book treatment practices over the past fifty years, and on feedback from survey pretesters. Questions pertaining to treatment practices for special and general collections were identical, covering fifty-five book treatments in six categories: 1) protective enclosures and book jackets, 2) binding reinforcements, 3) minor paper treatments and textblock repairs, 4) board reattachment methods, 5) other binding repairs and rebinding techniques, and 6) advanced paper treatments performed on bound materials. Where treatment names were not sufficiently self-explanatory, definitions were supplied. Definitions are provided in Appendix B.

Respondents were asked to indicate how frequently each of the fifty-five treatments was performed in their facility by selecting from 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. Definitions for the response options were supplied (fig. 1).

An analysis of the potential errors associated with the survey is provided in the previous report (Baker and Dube 2010, 30–31). In summary, the survey response rate is conservatively estimated to be at least 29 percent. This level of survey participation, while not comprehensive, was determined to be sufficiently representative to enable to data to support conclusions about current book conservation practices in the U.S.

DEMOGRAPHIC CHARACTERISTICS OF SURVEY RESPONDENTS

Seventy-nine respondents from research libraries fully completed the survey; however, because there was insufficient response from outside the United States—just six respondents—all non-U.S. data were eliminated from the results. The following results are therefore limited to research library book conservation practice in the United States.

Response	Definition
Standard practice, frequent	Part of the laboratory's established toolbox of techniques, executed routinely or with some regularity (as defined relative to overall production levels).
Standard practice, occasional	Part of the laboratory's established toolbox of techniques, executed occasionally or rarely (as defined relative to overall production levels).
Anomalous use only	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 the facility.

Fig. 1. Treatment frequency response options

Respondents		Treatment Cases		
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

Fig. 2. Respondents' demographic characteristics and number of treatment cases

Response	No.	%
75% or more	57	78%
50-74%	8	11%
25-49%	4	5%
Less than 25%	4	5%

Fig. 3. Respondents' time dedicated to conservation (n=73)

With respect to their job responsibilities, a majority of the U.S. respondents (59%) served in hybrid positions—those involving both special and general collections—while the remainder was split nearly evenly between those working only with special collections (19%) and those working only with general collections (22%). 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 special collections practice and one for general collections practice. The remaining special- and general-collections only respondents (30 total) completed just one questionnaire each. The completed treatment questionnaires therefore divided nearly evenly between special collections and general collections: fifty-seven and fifty-nine, respectively (fig. 2).

The respondents overwhelmingly were dedicated full- or near-full time to their conservation responsibilities; over three quarters of respondents spent 75% or more of their time managing or participating in conservation or repair, while just 10% dedicated less than half their time to such activities (fig. 3).

The seventy-three respondents provided forty-five unique job titles. While such a diverse set of job titles cannot be summarized quantitatively, a few highlights help characterize the survey sample. The word "conservator" appeared in 41% of respondents' titles, a third of which were, more specifically, "collections conservator[s]." The word "conservation" appeared in 21% of all titles while 29% contained the word "preservation" (figures include 3% overlap of titles containing both terms). "Technician[s]" or "assistant[s]" comprised 16% of respondent titles, while department "head[s]" or "chief[s]" comprised 19% of titles. Finally, the word "librarian" appeared in 16% of respondent titles; however, since most respondents supplied functional titles, the percentage of librarians in the respondent pool may have been significantly higher than 16%.

Respondents' Training

With respect to the respondents' training, nearly two thirds reported formal training in conservation: 45% served an apprenticeship while 27% earned a graduate conservation degree or certificate (includes 8% overlap of respondents with

Question	Response	No.	%
Formal conservation training	Both graduate degree and apprenticeship	6	8%
	Apprenticeship only	27	37%
	Graduate degree only	14	19%
	None	26	36%
Workshops attended in the prior 10 years	None	12	16%
	1-5	21	29%
	6-10	18	25%
	More than 10	22	30%

Fig. 4. Respondents' training (n=73)

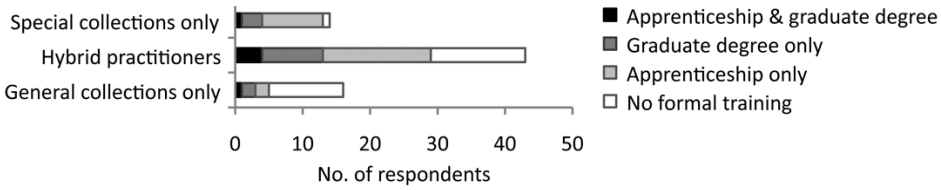

Fig. 5. Respondents' formal training by type of collection served (n=73)

Question	Response	No.	%
Size of institution	More than 5 million volumes	21	29%
	3-5 million volumes	15	21%
	2-3 million volumes	13	18%
	Fewer than 2 million volumes	24	33%
Type of U.S. research library	ARL	59	81%
	Non-ARL	14	19%

Fig. 6. Respondents' institutions (n=73)

both types of formal training). With respect to informal training, the survey sample divided fairly evenly between those who had attended six or more workshops or other forms of short-term training in the prior ten years and those who had attended five or fewer (fig. 4).

A comparison of the respondents' formal training with the types of collections served (i.e., special collections and/or general collections) revealed some trends (fig. 5). Nearly all (93%) of the respondents working *only* with special collections had some form of formal conservation training, with apprentice training predominating: over two-thirds (71%) of those working only with special collections were apprentice-trained, while less than a third (29%) of those working only with special collections had graduate degrees in conservation (includes 7% overlap of respondents with both types of formal training).

The respondents working *only* with general collections, on the other hand, had relatively little formal training. Over two-thirds (69%) of these respondents did not have formal training; of those with formal training, their training was split evenly between apprenticeships and graduate degrees.

The hybrid practitioners formed a more diverse pool with respect to their training. While one-third reported having no formal training, over two-thirds (67%) had some form of formal training: nearly half (47%) of the hybrid respondents had served an apprenticeship while 30% had earned a graduate degree/certificate in conservation (includes 9% overlap of respondents with both types of formal training).

Size and Type of Library

Diverse in terms of the size of their institutions, the survey respondents distributed relatively evenly among large libraries with over five million volumes, mid-size libraries with two to five million volumes, and smaller libraries with fewer than two million volumes (fig. 6). Most respondents (81%) worked for a library that was a member of the Association of Research Libraries (ARL). A minority of respondents (19%) worked for non-ARL libraries in the United States, most (86%) of which were smaller libraries with fewer than two million volumes.

Some relationships were identified between the size of the library and the type of practitioner (i.e., hybrid, special collections-only, or general collections-only). In the special collections context, increased practitioner specialization was associated with larger libraries: nearly two thirds (64%) of the special collections-only practitioners were from libraries with

Question	Response	No.	%
Type of conservation facilities	Hybrid (single facility for special and general collections)	49	67%
	Separate facilities for special and general collections	15	21%
	Special collections facility only	2	3%
	General collections facility only	7	10%
Year facility built or last renovated	2000s	32	44%
	1990s	16	22%
	1980s	10	14%
	Pre-1980	10	14%
	N/A	5	7%

Fig. 7. Type of conservation/repair facilities at respondents' institution (n=73)

over five million volumes, while none was from libraries with fewer than two million volumes. In the general collections context, however, the converse was observed: nearly half (47%) of general collections-only practitioners were from smaller libraries with fewer than two million volumes. As for the hybrid practitioners, nearly half (46%) were associated with midsize mid-size libraries with 2–5 million volumes.

Type of Conservation Facility

Two-thirds of respondents worked in a library with a centralized, or hybrid, conservation facility. Nearly half worked in a facility that was built or renovated since 2000 (fig. 7).

A comparison of the respondents' facility types and their most recent renovation dates revealed a trend toward centralized facilities; three-quarters of respondents from facilities built or renovated since 2000 described their institution's facilities as centralized, as compared with 59% for the remaining respondents.

SURVEY RESULTS

Data pertaining to treatment practices for special and general collections were compiled and compared, with all treatments classified as either "standard practice," "moderate use," or "low use" for special collections and for general collections. A treatment was considered "standard practice" when it was reported as "standard practice, frequent" or "standard practice, occasional" by 50% or more of facilities. Treatments reported as standard practice by 25–49% of facilities were considered "moderate use." The remaining treatments—"standard practice" at fewer than 25% of facilities—were designated "low use."

The data were examined for trends in treatment practices across all collected elements of demographic information. To determine whether specific treatment practices correlated with demographic characteristics, the responses of different demographic groups were analyzed and compared. For each treatment, the percentage of respondents from various demographic groups who reported the treatment as standard practice was calculated, for special and general collections, and the figures for various demographic groups were compared. This section details the similarities and differences in practices associated with five demographic variables:

- practitioner training
- type of collections served by the practitioner (whether special collections, general collections, or both)
- type of conservation facility
- size of library
- type of research library (ARL or other)

Practitioner Training

The data indicate that, overall, program- and apprenticeship-trained practitioners were more likely to consider treatments standard practice than were their counterparts without such formal training. This trend was strongest for relatively complex treatments such as leather work, dyeing materials, and solvent treatment. The correlation between formal training and increased adoption of complex treatments was strongest in the special collections context.

Special Collections—In the special collections context, the differences in practices between formally-trained practitioners and those without such training were striking. All but four (93%) of the treatments studied were more commonly reported as standard practice by formally-trained practitioners than by respondents without formal training. For all fifty-five treatments, the average differential—between the percentage of practitioners with formal training and those without that reported treatments as standard practice—was nineteen percentage points. Twenty treatments (36%) displaying a significant differential ($\Delta \geq 25$ percentage points) between practitioners with formal training and those without such training, all of which were more common to respondents with formal training (fig. 8). The data indicate, therefore, that in the

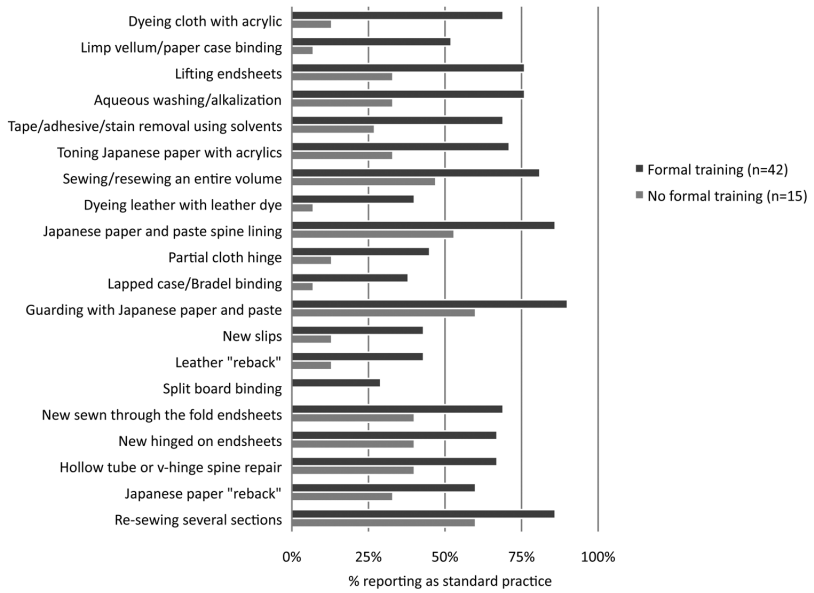

Fig. 8. Special collections treatments with significant variance in practice (≥25 percentage points) based on training

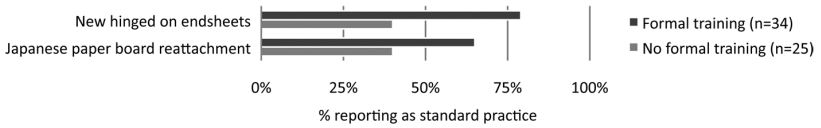

Fig. 9. General collections treatments with significant variance in practice (≥25 percentage points) based on training

special collections context, training is a strong indicator of treatment practice. This may not be surprising in that individuals with more comprehensive training may tend to be more comfortable with more complex treatments, as well as more likely to be hired into positions requiring such treatments.

General Collections—In the general collections context the same trend was observed, but the correlation was only about half as strong. For all fifty-five treatments, the average differential was ten percentage points (as opposed to nineteen percentage points for special collections). Forty-three of the fifty-five treatments (78%) were more common to formally trained practitioners than to those without such training, but just two treatments (hinged-on endsheets and Japanese paper board reattachment) displayed a differential of at least 25 percentage points based on type of training (fig. 9). The data indicate, therefore, that in the general collections context, training is a moderate indicator of treatment practice.

Type of Practitioner

The data indicate there are significant differences between the treatment practices of hybrid practitioners and their counterparts working solely with either special or general collections. When working with special collections, hybrid practitioners tended to report fewer treatments, particularly more complex ones, as standard practice than did their special collections-only counterparts. Conversely, in the general collections context hybrid practitioners tended to consider more treatments, including more complex treatments, standard practice than did their counterparts working solely with general collections.

Special Collections—In the special collections context, practitioners working only with special collections were more likely to consider treatments, especially complex ones, standard practice than were their hybrid counterparts. Forty-nine of the fifty-five treatments (89%) were more common to special collections-only practitioners than to hybrid practitioners. The average differential for all fifty-five treatments was sixteen percentage points, and nine treatments displayed a differential of at least twenty-five percentage points, all of which were more common to special collections-only practitioners (fig. 10). The data indicate, therefore, that in the special collections context, whether or not a practitioner also works with general collections is a fairly strong indicator of treatment practice, particularly with respect to more complex treatments.

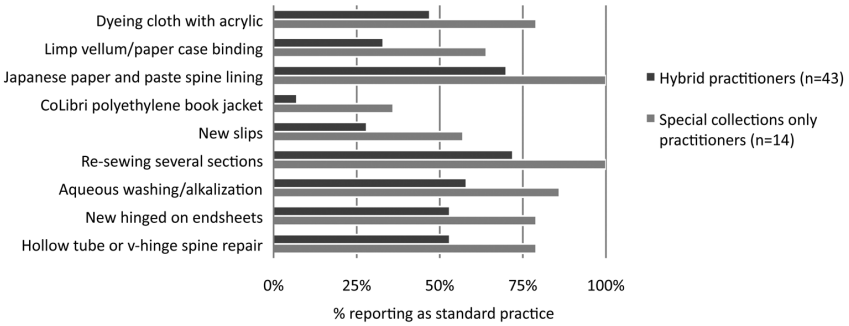

Fig. 10. Special collections treatments with significant variance in practice (≥25 percentage points) by type of practitioner

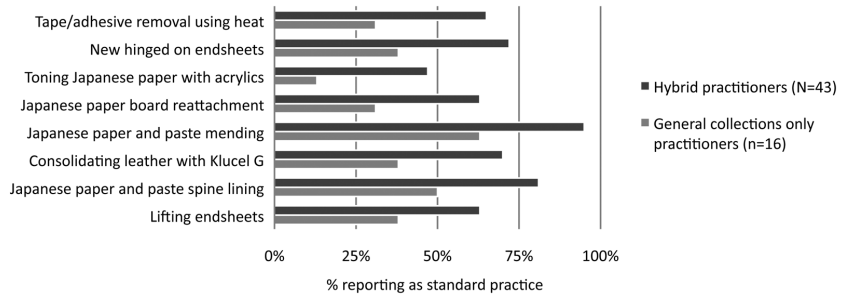

Fig. 11. General collections treatments with significant variance in practice (≥25 percentage points) by type of practitioner

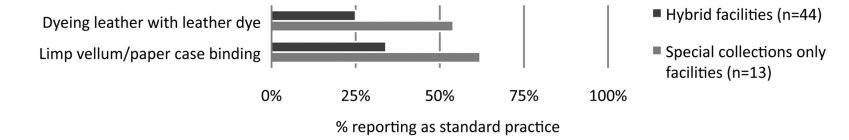

Fig. 12. Special collections treatments with significant variance in practice (≥25 percentage points) by type of facility

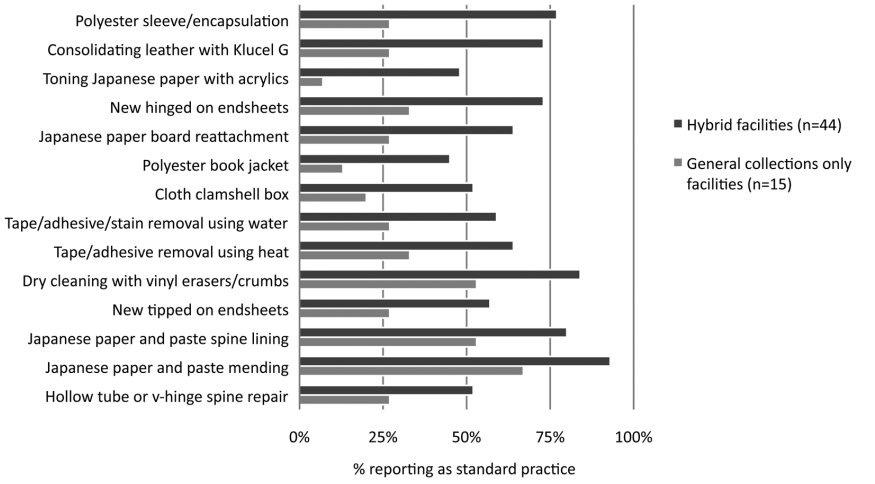

Fig. 13. General collections treatments with significant variance in practice (≥25 percentage points) by type of facility

General Collections—A very similar relationship emerged with respect to general collections treatment. In the general collections context, hybrid practitioners were more likely to consider treatments, especially more complex treatments, standard practice than were their general collections-only counterparts, with an average differential for all fifty-five treatments of thirteen percentage points (as opposed to 16% for special collections). Forty-eight of the

fifty-five general collections treatments (87%) were more common to hybrid practitioners than to general collections-only practitioners, with eight of the fifty-five treatments displaying a significant ($\Delta \geq 25$ percentage points) differential, all of which were more common to hybrid practitioners than to general collections-only practitioners (fig. 11). The data indicate, therefore, that in the general collections context, whether or not a practitioner also works with special collections is a moderately strong indicator of treatment practice, particularly with respect to more complex treatments.

Type of Conservation Facility

The treatment practices of respondents from centralized, or hybrid, facilities were compared with those from facilities dedicated solely to special or general collections. Significant overlap between this characteristic (type of facility) and the former just discussed (type of practitioner) was identified: of the forty-three hybrid practitioners responding to the survey, the vast majority (93%) worked in a centralized/hybrid facility. Similarly, of the forty-eight respondents from a hybrid facility, most (83%) reported hybrid responsibilities. The data confirmed this overlap, revealing similar treatment practice trends for facility type as were associated with practitioner type.

In the special collections context, practitioners from special collections-only facilities were slightly more likely to report treatments, especially more complex treatments, as standard practice than were their counterparts from hybrid facilities. Conversely, in the general collections context, practitioners working in hybrid facilities were more likely to report treatments, especially more complex treatments, as standard practice than were their counterparts working in general collections-only facilities. The impact of facility type was strongest in the general collections context. The treatment practices of hybrid facilities are therefore more similar to special collections-only facilities than they are to general collections-only facilities, suggesting that general collections-only facilities may be equipped to support fewer types of treatments than their hybrid counterparts.

Special Collections—The data indicate that practitioners in special collections-only facilities were slightly more likely to consider treatments standard practice than were their counterparts in hybrid facilities: forty of the fifty-five special collections treatments (73%) were more common to special collections-only facilities than to hybrid facilities. This trend was most pronounced for more complex types of treatments, such as dyeing leather, limp vellum/paper case binding, and leather reback. The average differential for all fifty-five treatments was eleven percentage points, with just two treatments having differential of at least twenty-five percentage points, both of which were more common to special collections-only facilities (fig. 12).

General Collections—Type of facility had a moderately strong impact on treatment practices in the general collections context. Fifty of the fifty five treatments (91%) were more common to hybrid facilities than to general collections-only facilities, and the average differential for all fifty-five treatments was seventeen percentage points (as opposed to eleven percentage points for special collections). Fourteen of the fifty-five treatments displayed a significant ($\Delta \geq 25$ percentage points) differential in the general collections context, all of which were more common to hybrid facilities (fig. 13).

The data indicate that, overall, more complex treatments—those requiring more specialized skills, supplies, or equipment—were more common to practitioners from centralized/hybrid facilities than to practitioners from general collections-only facilities. One treatment especially stood out in this respect: polyester sleeve/encapsulation was considered standard practice by 77% of respondents from centralized facilities, while just 27% of respondents from general collections-only facilities reported it as standard practice. Because encapsulation is often performed with specialized welding equipment, this striking difference (Δ 50 percentage points) suggests that facilities dedicated only to general collections may tend to be less well equipped than facilities for special collections treatment.

Size of Library

The data indicate that, overall, larger institutions were more likely to consider treatments standard practice than were smaller libraries. This trend was strongest in the special collections context.

Special Collections—In the special collections context, the data indicate a strong relationship between the size of the collection held by the respondent's institution and its reported treatment practices. Most (85%) of the fifty-five treatments studied were found to be more common to larger libraries (> three million volumes) than to smaller libraries (< three million volumes). With respect to the percentage of respondents reporting techniques as standard practice, the average differential between larger libraries and smaller libraries for all fifty-five treatments was 18%. Sixteen (29%) of the treatments studied displayed a significant differential ($\Delta \geq$ 25 percentage points) with respect to the percentage of respondents reporting them as standard practice, all of which were more common to larger libraries (fig. 14).

General Collections—The relationship between treatment practices and the size of the library collection is not as strong in the general collections context as was observed in the special collections context. A much weaker majority (65%) of the fifty-five treatments studied were

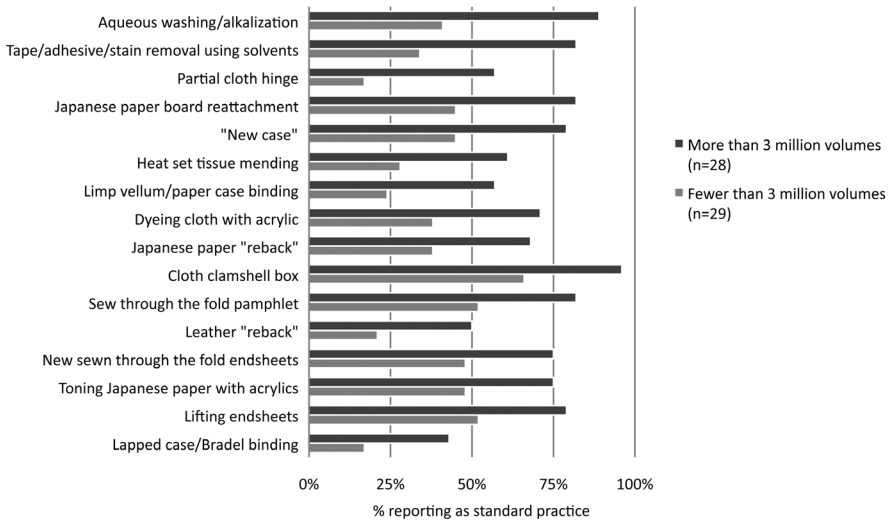

Fig. 14. Special collections treatments with significant variance in practice (≥25 percentage points) by size of library

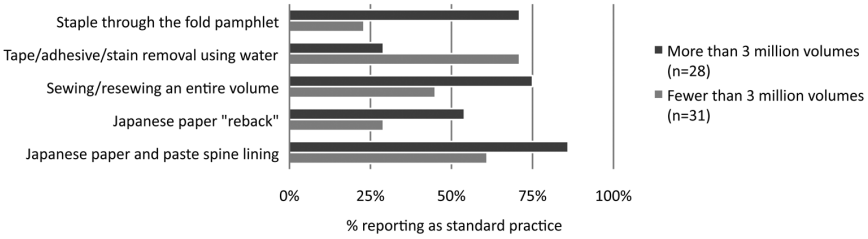

Fig. 15. General collections treatments with significant variance in practice (≥25 percentage points) by size of library

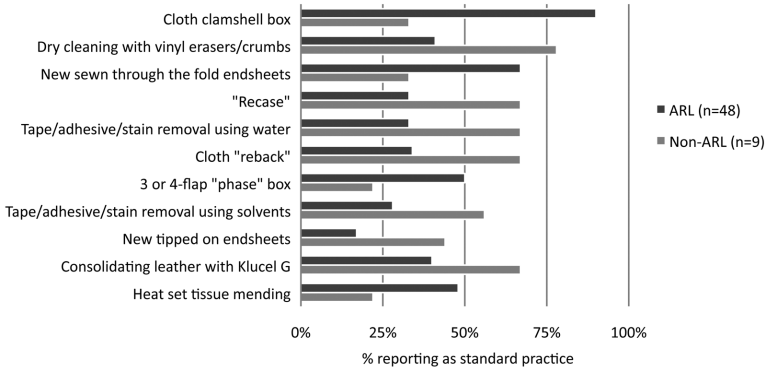

Fig. 16. Special collections treatments with significant variance in practice (≥25 percentage points) by type of library

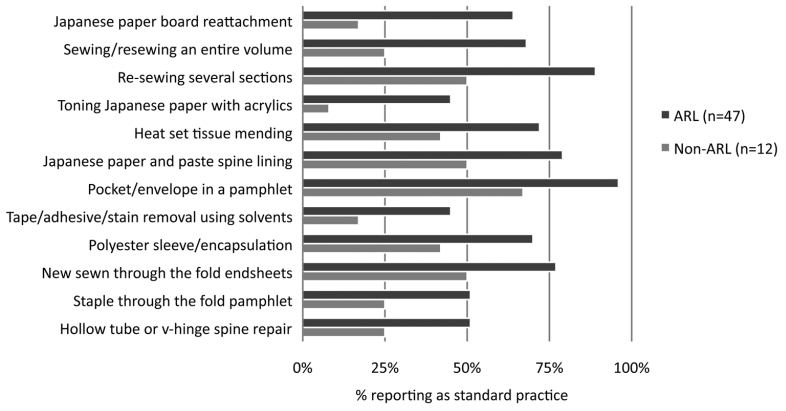

Fig. 17. General collections treatments with significant variance in practice (≥25 percentage points) by type of library

found to be more common to larger libraries (> three million volumes) than to smaller libraries (< three million volumes). With respect to the percentage of respondents reporting techniques as standard practice, the average differential between larger libraries and smaller libraries for all fifty-five treatments was 10% (as opposed to 18% for special collections), with just five (9%) of the treatments displaying a significant differential ($\Delta \geq 25$ percentage points) with respect to the percentage of respondents reporting it as standard practice (fig. 15).

Type of Library

The survey data reflect the working practices of U.S. research libraries, comparing ARL and non-ARL libraries. Many top research libraries are members of the Association of Research Libraries (ARL), an "organization of 125 research libraries at comprehensive, research-intensive institutions" (Association of Research Libraries 2010). Another elite research library group is the Independent Research Libraries Association, an organization of nineteen independent, privately supported research libraries (Independent Research Libraries Association 2010). Three additional categories of research libraries are identified in a 2002 Council on Library and Information Resources report on the state of American preservation programs: the University Libraries Group of twenty-three mid-sized university libraries, the Oberlin Group of eighty leading liberal arts colleges, and the twenty major non-ARL land-grant institutions (Kenny and Stam 2002, iv).

The data were examined to compare the types of treatments employed by practitioners working in ARL libraries with those used by practitioners in non-ARL research libraries in the United States. The practices of those working for ARL libraries and those working for non-ARL research libraries were found to be moderately different in both special and general collections contexts.

Special Collections—In the special collections context, the differences in practices between ARL and non-ARL libraries were found to be moderately significant. The average differential for all treatments, based on type of library, was 14%. Just slightly more than half of the fifty-five treatments (62%) were more common to ARL libraries, resulting in a relatively even mixture of treatments more common to ARL libraries and others more common to non-ARL libraries, with no obvious trends within treatment categories. Eleven treatments (20%) displayed a differential of at least 25 percentage points (fig. 16).

General Collections—In the general collections context, a similar relationship was identified as was observed for general collections: the average differential between ARL and non-ARL libraries for all fifty-five treatments was 16% (as compared with 14% for special collections). However, in the general collections context, practitioners from ARL libraries were far more likely to report treatments as standard practice than were their non-ARL counterparts: fifty of the fifty-five treatments (91%) were reported as standard practice by a greater percentage of ARL facilities than non-ARL facilities. Twelve treatments displayed a differential of at least twenty-five percentage points, all of which were more common to ARL libraries (fig. 17).

U.S. VERSUS NON-U.S. TREATMENT PRACTICES

Further study of international treatment practices is needed, as practices in the U.S. may be substantially different from those of other countries. As previously mentioned, while the survey was open to research library book conservation practitioners worldwide, the response rate from non-U.S. facilities was insufficient to support conclusions about non-U.S. practices and how they compare to practices in the U.S. While the data from the six non-U.S. survey respondents were excluded from this analysis, a preliminary assessment prior to the removal of non-U.S. respondent data indicated greater differences between U.S. and non-U.S. practices than among any of the other demographic variables studied. For both special and general collections, non-U.S. practitioners consistently reported more complex treatments—such board reattachments, treatments using leather, and tape removal and other advanced paper treatments—as standard practice at markedly higher rates. More research is needed to discover how treatment practices in the U.S. compare to those of other countries, how institutional contexts differ, and how conservation information is shared internationally.

CONCLUSION

The results of this study indicate that the demographic characteristics of book conservation practitioners and their institutions—including the practitioners' level of training, the size of library collection, and the type of library—are, to varying degrees, indicators of treatment practices. The data also confirm the authors' hypothesis that the practices of hybrid facilities and hybrid practitioners differ significantly from the practices of facilities and practitioners dedicated to just one type of collection, with the practices of hybrid practitioners and hybrid facilities occupying a middle ground between those dedicated solely to special collections and those dedicated solely to general collections. Finally, the survey data suggest areas for future research.

Differences between the practices of those with formal training and those without formal training were identified. The level of training of the respondent was found to be a strong indicator of treatment practice in the special collections context, while only slightly so in the general collections context, suggesting that formal training is most critical in the

special collections context. The considerable differences between the special collections treatment practices of formally trained practitioners and those without formal training are relevant to current questions about the future of conservation education in the United States, as the recent closure of the only graduate program focused on book conservation in the United States, at the University of Texas, has made it more difficult to obtain formal credentials in library and archives conservation.

Differences in practice based on the size and type of library were also observed. Library size was found to be a strong indicator treatment practices in the special collections context, while only slightly so in the general collections context. Whether the respondents' institution was a member of the Association of Research Libraries was a moderate indicator of practice in both the special and general collections contexts.

The survey data support the hypothesis that the practices of hybrid facilities and practitioners bridge the gap between the historically disconnected operations dedicated to special collections conservation and general collections repair, as observed by Frost (1999–2000). The treatments utilized by hybrid practitioners tend to occupy middle ground between their counterparts working with just one type of collections: for general collections, hybrid practitioners apply a larger number of more complex treatments than their counterparts working solely with general collections, while for special collections they regularly utilize fewer of the complex treatments employed by their colleagues working solely with special collections. A similar trend was noted for the practices of hybrid facilities, which the data also confirm have become increasingly more common in U.S. research libraries. These findings suggest that the rise of hybrid conservator positions and hybrid facilities in research libraries in the United States has likely had a significant impact on book conservation treatment practices.

Finally, marked differences in treatment practices were noted between U.S. and non-U.S. libraries, especially for more complex work such as leather and paper treatments, but these results were inconclusive due to the small number of non-U.S. respondents. While not statistically significant, the data suggest the need for another study with greater non-U.S. participation and an internationally standardized terminology to identify gaps in knowledge and practice, and to highlight areas where the need for international information exchange is greatest.

ACKNOWLEDGEMENTS

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Appendix A: Survey Instrument
Book Conservation and Repair in Research Libraries

Survey page 1
Thank you for your interest!

Your participation in this 10-20 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 page 2
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 10-20 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 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,

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Survey page 3
Please Briefly Describe Yourself and Your Institution

Institution size
- ❍ Under 2 million volumes
- ❍ 2-3 million volumes
- ❍ 3-5 million volumes
- ❍ Over 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

Appendix A.2.

Survey pages 4 and 5
[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 up 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 info	❍	❍	❍	❍	❍
CoLibri polyethylene book jacket info	❍	❍	❍	❍	❍
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 info	❍	❍	❍	❍	❍

Other protective enclosures and/or book jackets:

Binding reinforcements

	Standard	Standard	Anomalous	Never	Not

	practice, frequent	practice, occasional	use only		sure
Pamphlet binding, adhesive attachment	❍	❍	❍	❍	❍
Pamphlet binding, staple through the fold	❍	❍	❍	❍	❍
Pamphlet binding, sew through the fold	❍	❍	❍	❍	❍
Paperback stiffening info	❍	❍	❍	❍	❍

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 info	❍	❍	❍	❍	❍
Mending with Japanese paper & paste	❍	❍	❍	❍	❍
Guarding sections with Japanese paper & paste	❍	❍	❍	❍	❍
Re-sewing several sections	❍	❍	❍	❍	❍
Sewing or re-sewing an entire volume	❍	❍	❍	❍	❍
Barrier spine lining of Japanese paper & paste	❍	❍	❍	❍	❍
New tipped-on endsheets	❍	❍	❍	❍	❍
New hinged-on endsheets info	❍	❍	❍	❍	❍
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) info	❍	❍	❍	❍	❍
Japanese paper board reattachment (Etherington) info	❍	❍	❍	❍	❍

Appendix A.4.

Toning Japanese paper with acrylics for board reattachment or binding repair	❍	❍	❍	❍	❍
Solvent set tissue board reattachment (Anderson & Puglia) info	❍	❍	❍	❍	❍
Board slotting (Clarkson) info	❍	❍	❍	❍	❍
Partial cloth hinge (Brock) info	❍	❍	❍	❍	❍
New slips info	❍	❍	❍	❍	❍

Other board reattachment methods:

Other binding repair and rebinding techniques

	Standard practice, frequent	Standard practice, occasional	Anomalous use only	Never	Not sure
"Recase" info	❍	❍	❍	❍	❍
"New case" info	❍	❍	❍	❍	❍
Lapped case / Bradel binding info	❍	❍	❍	❍	❍
New limp vellum and/or limp paper case binding info	❍	❍	❍	❍	❍
Cloth "reback" info	❍	❍	❍	❍	❍
Leather "reback" info	❍	❍	❍	❍	❍
Japanese paper "reback" info	❍	❍	❍	❍	❍
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) info	❍	❍	❍	❍	❍
Split board binding info	❍	❍	❍	❍	❍
"Treatment 305" (Baird & LeTourneaux) info	❍	❍	❍	❍	❍
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 info	❍	❍	❍	❍	❍
Bookkeeper deacidification (in-house) info	❍	❍	❍	❍	❍
Wei T'o deacidification info	❍	❍	❍	❍	❍
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:

Survey page 6
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: _____
Email Address: _____

Survey page 7
Your survey has been submitted.

Thank you for your participation!

Appendix A.6.

Appendix B: Treatment 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 non-adhesive custom fitted book jacket made of clear polyester film (e.g., Mylar).
CoLibrì polyethylene book jacket	A machine-assisted method for fitting books with non-adhesive 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 may also 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 non-adhesive limp paper/parchment cover with a texblock 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.