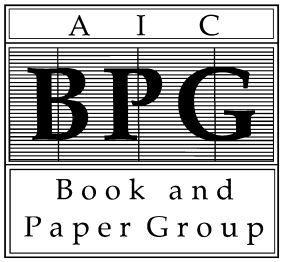

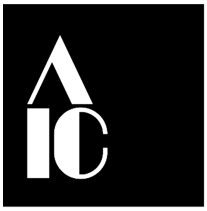

american
institute for
conservation

Preserving Cultural Heritage

Article: Merging of Techniques to Unite Historical Integrity with Function: Treatment of the Hebrew Union College 1526 Prague Haggadah
Author: Ashleigh Ferguson Schieszer
Source: Book and Paper Group Annual 43, 2024
Pages: 41-52
Editors: Roger S. Williams, Managing Editor, and Amy Crist, Assistant Editor
Editorial Office: bpgannual@gmail.com
ISSN: 2835-7418

The *Book and Paper Group Annual* is published once each year by the Book and Paper Group (BPG), a specialty group of the American Institute for Conservation (AIC). It was published in print from 1982 to 2021, and transitioned to a digital publication in 2022. All issues are available online at https://culturalheritage.org.

Print copies of back issues are available from AIC. All correspondence concerning back issues should be addressed to:

American Institute for Conservation
727 15th Street NW, Suite 500
Washington, DC 20005
info@culturalheritage.org www.culturalheritage.org

ASHLEIGH FERGUSON SCHIESZER

Merging of Techniques to Unite Historical Integrity with Function: Treatment of the Hebrew Union College 1526 Prague Haggadah

INTRODUCTION

Over a series of years, treatment was performed at the Preservation Lab on one of the earliest printed Haggadot in history, a text central to the celebration of Passover. The book, printed in Prague in 1526, is owned by Hebrew Union College (HUC), located in Cincinnati, Ohio. The object was in need of treatment to reverse poorly aging prior repairs so the item could be better interpreted. A custom treatment was designed to restore the functionality of failing reformatted book pages—pages that had been previously trimmed to varying dimensions and shapes.

The goal of treatment was to reunite pages of differing dimensions within historical leather covers while keeping to the original sewn book structure. The solution was unique and unexpected. To conquer the challenge of rebinding different page dimensions, both encapsulated pages and paper leaves were united and sewn together onto raised supports to preserve the historical covers and the binding structure. This solution proved surprisingly successful in facilitating the reuse of the historic leather cover and recombining the existing pages.

The Prague Haggadah is also interesting to consider in the evolution of printed Haggadot and how this fully illustrated edition influenced future printed text. Historical achievements of Haggadah imagery through time are presented in relation to two other Haggadot treatments performed at the Preservation Lab. Showcasing these additional Haggadah examples paves the way for the merging of history and conservation solutions that led to the Prague Haggadah treatment.

Hebrew Union College

HUC is an international institution with campuses in Cincinnati, Jerusalem, Los Angeles, and New York. Cincinnati is known as the birthplace of American Reform Judaism, beginning in 1875 with Rabbi Isaac Mayer Wise, who paved the way for shifting gender roles and progressive Jewish education within the reform movement. As a result, the Cincinnati campus houses internationally renowned special collections at the Klau Library, Jacob Rader Marcus Center of the American Jewish Archives, and the Skirball Museum.

HUC (Cincinnati campus) is located less than a mile from the Preservation Lab where treatment was performed. The Preservation Lab, located on the University of Cincinnati Campus, is a collaborative hybrid laboratory where we perform limited third-party institutional work. This multifaceted book treatment utilized a wide set of paper and book conservation techniques and was heavily influenced by two other Haggadah treatments previously performed by the Preservation Lab. In total since 2015, the laboratory has treated three leatherbound HUC Haggadot, ranging from the 16th to the 18th century, whose history and conservation relate to each other and build upon prior treatment strategies.

HISTORICAL BACKGROUND

The Haggadah is central to the Passover celebration. It is written in Hebrew script and read right to left. The Haggadah is read during the Seder ritual meal, which consists of symbolic food and storytelling and outlines an order of activities. Because these books are heavily used around the dinner table, it is not unusual for Haggadah pages to be dirty and food smeared. This evidence of use is an important part of the history of a Haggadah and is preserved during treatment.

The Seder meal traditionally ends in song. These songs are often included in a Haggadah; however, songs were not printed in the Prague text until 1590. Because of this, at some point in the 1526 binding's history, a group of handwritten songs—including the popular song "Chad Gadya," also known as "One Little Goat"—were sewn into the back of the printed text.

1526 Prague Haggadah History

The Prague text from 1526 is significant because it is the earliest fully illustrated printed Haggadah. It was published

Papers presented during the Book and Paper Group Session, AIC's 52nd Annual Meeting, May 20–24, 2024, Salt Lake City, Utah

Fig. 1. Woodblock printed leaves from the 1526 Prague Haggadah.

in Prague by the brothers Gershom Cohen and Gronom Katz. There are more than 60 woodblock prints throughout that are attributed to artist Hayyim Schwarz. Other features include printed type of varying styles and sizes, decorative initials, and short interpretations printed in the pages' margins. The woodcut imagery served as the model for future printed Haggadot and had an enormous influence on the history of Haggadah illustration going forward (fig. 1).

1695 Amsterdam Haggadah History and Treatment

The Amsterdam text dates to 1695 and is significant as it contains influences of Christian imagery, such as those found in the Protestant Merian Bible, and it was the first time in the history of the Jewish Book that copper engravings were used instead of woodblock prints. On the title page, you can see hand-colored engravings by Abraham ben Jacob containing the figures Moses and Aaron, which are modeled after the print by the Swiss artist Mattheus Merian. The Amsterdam Haggadah was revolutionary in its kind and still has influence on the layout and illustrations of modern Haggadot (fig. 2).

The 17th century printed text is bound in what are likely its original covers and sewing structure. It was printed in Amsterdam and is the fourth copy owned by the college; however, it is the only copy at HUC that contains hand-colored illumination. As a result, the binding is used frequently in the reading room as a teaching tool and needed treatment to prevent parts from becoming further damaged.

To treat, the text was fully disbound and repaired. It was rebound with a historically sympathetic structure, adding endbands to recreate lost parts of the original binding and rebacked with a new vegetable-tanned goatskin that was dyed

Fig. 2. Hand-colored engraving by Abraham ben Jacob from the 1695 Amsterdam Haggadah.

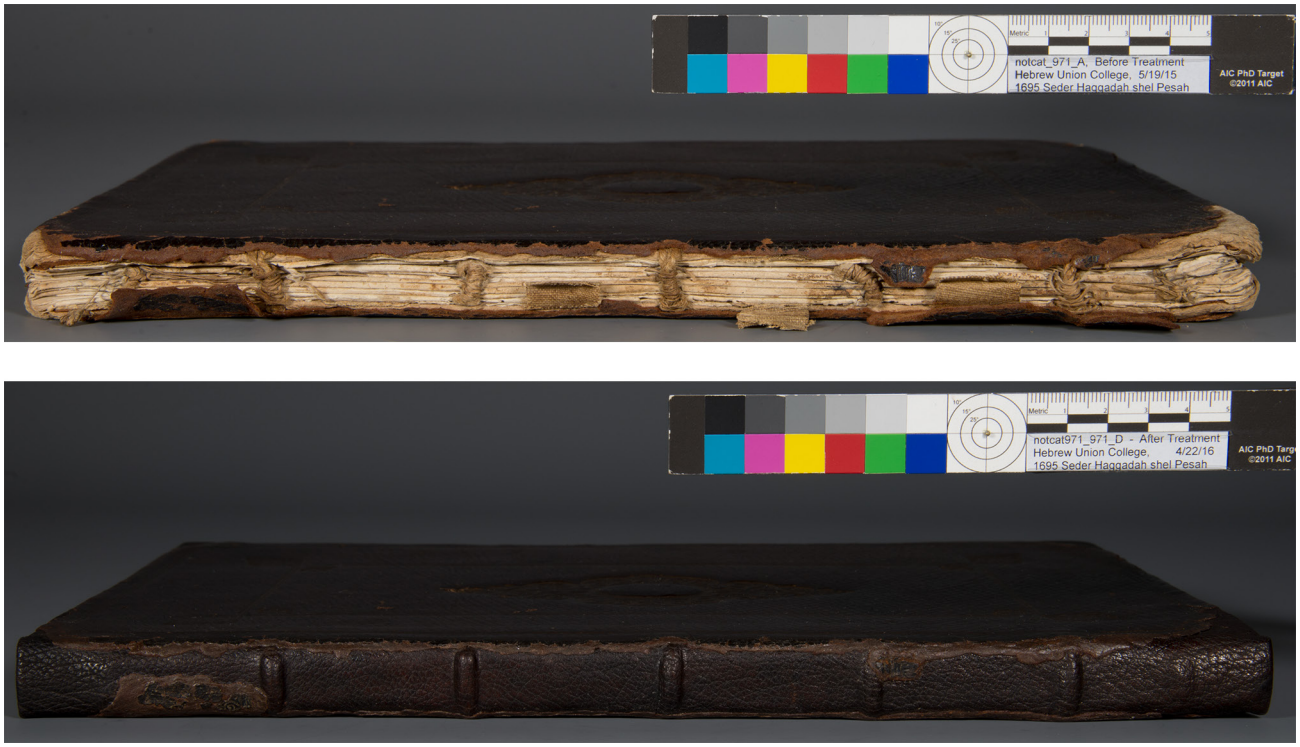

Fig. 3. View of the 1695 Amsterdam Haggadah spine before and after treatment.

to match the historic leather (fig. 3). This treatment was a great introduction for the laboratory to learn about the history of Haggadot and to become familiar with their historical format.

1716 Van Geldern Haggadah History and Treatment

The next Haggadah treated by the laboratory was a 1716 Haggadah manuscript, which is a companion to the Van Geldern Haggadah from 1723. It is also known as the *Second Cincinnati Haggadah*. Both were produced by Moses Loebben Wolf, who is well known for his Jewish manuscript art. The miniatures are in oil on parchment and are based on the engravings found in the printed Amsterdam Haggadah but also contain influences of the Prague text, especially when comparing title pages (fig. 4).

The treatment was similar to the prior conservation project with a few key differences. The text block was parchment, and its original sewing had been fully replaced with heavy-handed 20th century repairs. These page repairs needed to be

Fig. 4. Miniature oil paintings painted on parchment by Moses Loebben Wolf. Imagery and layout contain influences of both the Prague and Amsterdam Haggadot.

Fig. 5. The 1715 Haggadah is stored near the original slipcase within a new cloth-covered clamshell.

carefully removed and the pages rebound with as little moisture as possible to preserve the flexibility of the animal skin leaves, a treatment step that would help inform linings in the Prague treatment.

As an interesting side note, the Haggadah was stored next to its original slipcase in a new cloth-covered clamshell. That way, the Haggadah could remain in context with the original enclosure but would not suffer any abrasion from being pulled in and out of the original case (fig. 5).

TREATMENT OF THE 1526 HAGGADAH

Having treated two prior Haggadot (see figs. 2–5) of varying conditions and materials, the laboratory was prepared to pursue treatment on the earliest printed Haggadah.

Condition

The 16th century Haggadah suffered from degraded leather, cockled pages, and broken sewing. It was clear that at multiple points in this object's history, it had been reformatted since the pages consisted of differing dimensions. In addition, sewing holes and leather impressions showed that the text block was originally sewn with six raised sewing supports, despite it currently being sewn onto 20th century flat sewing tapes.

In its current state, the printed text had been trimmed and mounted within larger paper frames. These paper frames helped extend the sheet dimensions to fit within the dimensions of the leather covers. Over time, the mounting tape had yellowed and darkened. The paper frames were cockled due to differing expansion and contraction rates to the printed leaves, and the 20th century sewing was broken (fig. 6). Manuscript leaves with iron gall ink at the ultimate section of the text were showing signs of early corrosion with ink bleeding through the paper.

Since the leather binding could have been contemporaneous with the manuscript, treatment consisted of conserving all components and rebinding them into the existing covers.

Testing a Unique Treatment Solution

Before treatment began, a model was created to test a unique rebinding solution to recombine the different-sized pages (fig. 7). As an alternative to inlaying treated pages back into new paper frames, polyester encapsulated pages were constructed to be sewn through the fold next to the manuscript leaves, similar to how they were previously bound. This was done in a structure sympathetic to the historical one to reuse the original leather covers. The advantage of this format is that it allows the printed leaves to be removable for handling and display and shows a clear delineation between new materials introduced during treatment and the original leaves.

Other options considered were to secure the leaves in a traditional screw-post encapsulation binding with new cloth covers or to hinge the pages along the gutter, leaving the rough edges exposed. Due to the irregular nature of the trimmed pages, impressions in the paper over time would likely have become an issue when a shorter page was hinged next to a larger one. The margins of the pages also did not line up, causing challenges in deciding how high or low to orient leaves within a gathering, even further increasing the possibility for impressions of page edges to be imparted against adjacent leaves.

Creating the model proved successful in proposing an encapsulation solution to HUC's special collection librarians and troubleshooting the encapsulation form. Lessons learned included how to map out the welding process for creating nested gatherings with paper hinges, and an effective amount of stubbing near the gutter was added to compensate for the added thickness of the polyester film to prevent the book from becoming wedge shaped. There were structural binding considerations tested as well, such as creating a natural hollow

Fig. 6. Prague 1526 Haggadah condition before treatment.

Fig. 7. A cut-away model was constructed to test a sewn encapsulation solution to recombine differing-sized pages. The cut-away reveals board attachment and spine lining tests.

leather spine that gives the appearance of a tight back binding while providing enhanced flexibility. In this case, the tight back form also protected the paper hinges of the encapsulated leaves from cockling from excess moisture when rebacked.

Paper Treatments

Pages contained both printed and handwritten leaves that required disparate wet treatments. Early printed leaves were treated to remove prior poorly aged taped and cockled repairs in a traditional wet bath, whereas handwritten songs added in the back of the binding required a specialized calcium phytate treatment to preserve handwritten iron gall ink. After wet work was completed, lost dirt found beneath previous repairs was inpainted to preserve the prior evidence of use.

Printed Leaf Treatment

Treatment began with printed leaves. Printed leaves were treated in five major stages: They were immersion washed to remove tape, they were inpainted to compensate for visual loss of surface dirt, tears were repaired, and then both the obvious and inconspicuous paper losses were filled before final encapsulation.

Immersion Washing. All leaves were washed until the bath water ran clear; however, some leaves required more than one immersion to remove multiple layers of tape. A handful of leaves contained additional areas of prior repairs that did not readily lift during the initial baths. Baths successfully reactivated two types of adhesive; the printed leaves were both adhered to the paper frames with a water-soluble adhesive and taped on the opposite side with a yellowed paper tape. During frame removal, paper losses along the edges of leaves and areas of dirt loss were further revealed that were once masked by the paper frames (fig. 8).

Inpainting. Leaves were not surface cleaned prior to washing for two reasons: to prevent a shift in paper tone between the taped and untaped areas, and to preserve the evidence of use. However, after removal of the yellowed tape, areas

Fig. 8. A printed leaf immersed to remove tape and framing. Imagery and paper loss are revealed under overlapping paper frames.

Fig. 9. A printed leaf in need of compensation for dirt loss along the left edge, before and after inpainting.

of dirt loss became more pronounced after the removal of the paper frames. While it was possible some dirt was lifted when the tape was removed, it was apparent that dirt had been previously lost prior to the laboratory's treatment, further indicating that the pages had been reformatted multiple times. To compensate for the dirt loss, these brighter beige areas were inpainted with watercolors and pastels (fig. 9).

Paper Repair. Paper losses along edges were primarily filled with laminated layers of acrylic toned kozo tissue (fig. 10). A large rectangular cut out in the front title page required a

Fig. 10. Before- and after-treatment images show paper losses filled with an acrylic-toned kozo tissue.

Fig. 11. Before- and after-treatment images show a large cut-out requiring additional structural support with a handmade Western paper.

stronger paper fill support and was filled with a handmade Western paper that was specially toned to match the darkened edges and the lighter tone in the center of the paper (fig. 11).

Encapsulation. Once repaired, the printed leaves were encapsulated with wide margins to match the larger size of the manuscript leaves. To create sewn gatherings, 38 encapsulated pages were ultrasonically welded with Sekishu paper hinges to create folios. Encapsulated folios were then nested into groups of four to create one gathering. When creating the gatherings, to accommodate the increase in folio size as it wraps around the previous inner folio, Sekishu hinges were stepped out into four different widths, with the smallest hinge on the inside folios and the largest hinge welded to the outermost folio of a gathering (fig. 12).

Encapsulations were partially welded around the edge with an upper corner open to allow the leaves to be removed should someone want to experience the material outside of the protective polyester film. To achieve this, three outer weld lines were placed along the edges. A short 1 cm weld line was added along the top edge near the gutter to protect the paper hinge weld from wear when pages were turned. A 20 cm weld was placed along the bottom edge, spanning the entire length of the printed leaves to support them overall. An 8 cm weld was placed along two-thirds of the fore-edge, spanning from the bottom toward the center. These three welds allowed the printed leaves to be removed along the top of the fore-edge (fig. 13). The bottom fore-edge weld prevents the pages from slipping out along the fore-edge during handling. The book model provided a good testing ground for how best to trim the inner margins to prevent them from catching and rubbing when pages were turned.

The most difficult part of the encapsulation process was realizing that the polyester pages would need to be cut out of square to fit within covers that were also askew. To trim the edges of the sleeves on a board shear, the board shear gauge

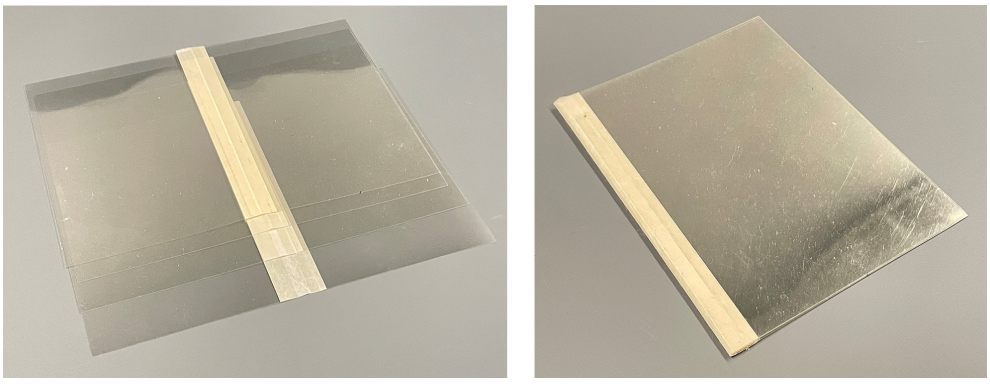

Fig. 12. Paper hinges widen for each nested folio of a gathering so that when closed, all paper and plastic edges align.

Fig. 13. Yellow lines represent outer ultrasonic weld lines.

was removed, and the individual polyester sleeves were placed at an angle identical to the obtuse top corner angle of the manuscript leaves and secured with a weight before chopping.

Manuscript Leaf Treatment

To treat manuscript leaves suffering from iron gall ink corrosion, wet treatment was performed. This consisted of a prewash bath, followed by a bath of phytic acid mixed with calcium carbonate to chelate the unstable FE(II) ions. Documents were rinsed to remove precipitate, then washed with a calcium bicarbonate bath for deacidification. This was achieved by premixing seltzer water with calcium carbonate powder. Last, the pages were sized with gelatin.

Gelatin has been found to have beneficial effects on iron gall ink documents and helps keep the chemical equilibrium favored toward Fe(III) rather than the destructive Fe(II), so this is the preferred material for resizing in conservation treatment (Kolbe 2004). However, when treating Jewish materials, it is recommended to consult with the client to consider kosher food-grade gelatin options or using a plant-based size instead of using traditional conservation gelatins that may not be kosher.

While examining a treated iron gall ink folio overlaid on top of an untreated folio under UVA fluorescence during treatment, it was noted that while the overall tone of the paper shifts from a yellow-green tone to a bluish tone under UVA, the ink was not found to shift or bleed through more than before treatment in either UVA or visible illumination (fig. 14), indicating that treatment was successful.

Fig. 14. A treated manuscript leaf is overlaid on top of an unwashed sheet to compare ink bleed-through before and after treatment.

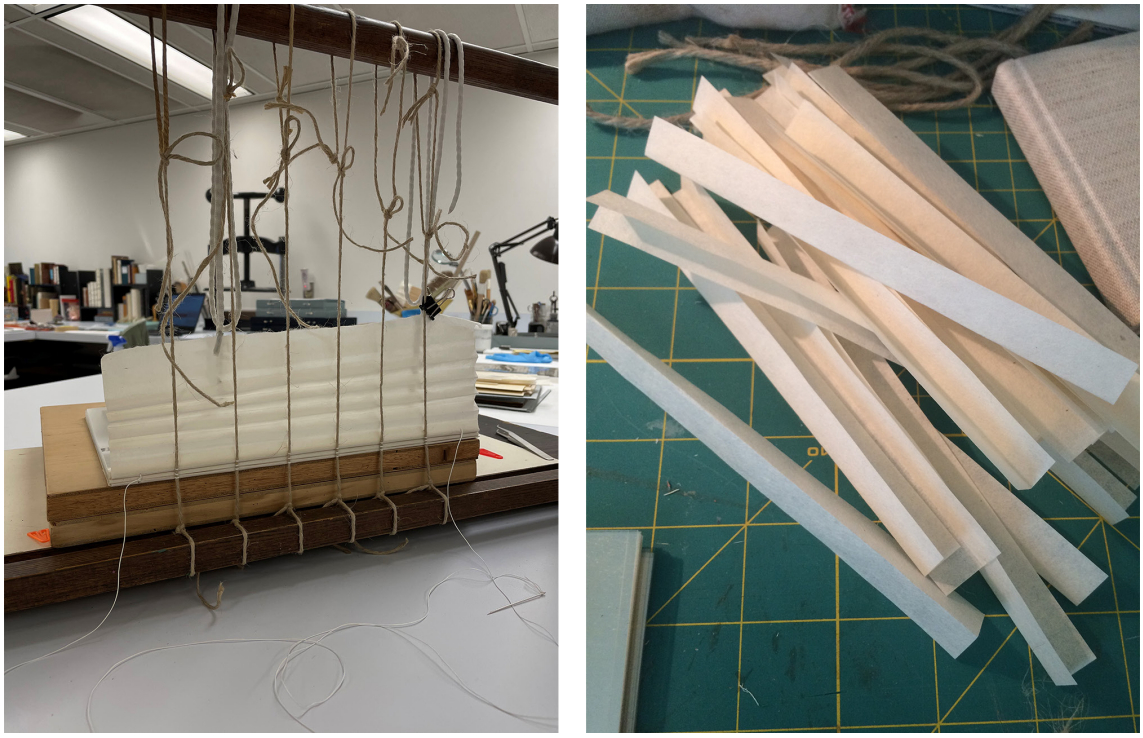

Fig. 15. During sewing, a concertina guard was placed on the outside of the gatherings while loose free guards were added in between each encapsulated folio.

New Endsheets

Next, a new handmade laid Twinrocker paper was custom toned to rest against the manuscript leaves and the original marbled paper endleaves. One challenge when toning Western paper is that sometimes one side of the sheet readily accepts diluted acrylic paints while the other side does not. Fully wetting out the paper before applying pigment helps alleviate this, but as luck would have it, the tones of the text block pages on either side of the endsheet were slightly different shades of beige. Therefore, this treatment challenge could instead be embraced to create a two-tone colored sheet.

Binding Treatment

Text block parts that were treated as separate objects were next bound together. The text consisted of one manuscript gathering, five gatherings of encapsulated pages, original marbled papers, and new endsheets. To protect the manuscript and printed text from possible acidity in the retained marbled papers, new endsheet papers were hinged around the original marbled papers.

Sewing

The next step was to establish sewing stations. Sewing holes were based on holes discovered in the manuscript leaves that were identical to the placement of original sewing supports, as evidenced by impression marks where the spine leather was once tied up around prior sewing supports. As a result, new sewing holes were punched in the welded sleeves prior to rebinding, whereas existing sewing holes were used in the manuscript leaves.

Two types of paper guards were added to the text block during resewing. A concertina guard was created to protect the welded sleeves from spine-lining adhesive, a technique often used for rebinding parchment text blocks. Additionally, four sizes of compensation v-hinges, also known as free guards, were created to rest between folios to compensate for the added thickness of the welded leaves (fig. 15).

The text was sewn unpacked on six cord supports. Prior support fragments found beneath lifted leather along the board measured about 2.5 mm in size. Their size informed the support size used for rebinding. After the spine linings were attached, conservation endbands were sewn onto cores of alum-tawed leather laminated to vellum since there was evidence of prior endbands, but they had become lost.

Spine Linings

Unstrained wheat starch paste was applied to the concertina guard as a size and allowed to fully dry before applying panel spine linings. For the panel linings, paper panels of Sekishu kozo tissue were adhered in between sewing supports with additional coatings of undiluted wheat starch paste. Next, slotted airplane linen was adhered overall, with slots cut for the sewing supports,

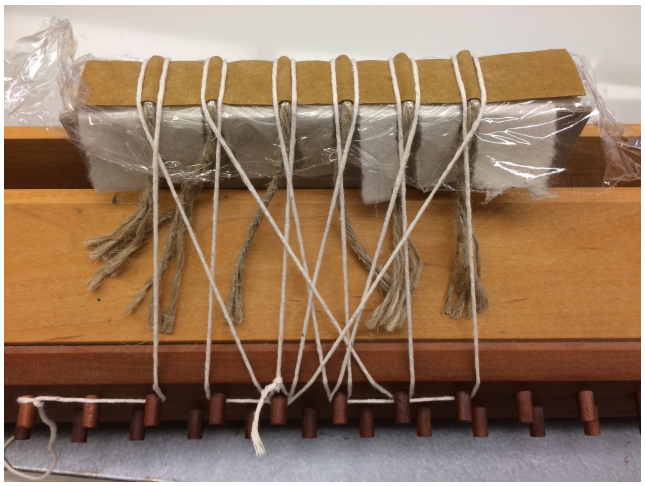

Fig. 16. An example of a molded cave paper spine. Cave paper is dampened and molded over the spine of the text block in a finishing press. Text is protected from moisture with plastic wrap.

adhered in place with paste. Last, Twinrocker handmade laid paper panel linings were adhered with wheat starch paste in between sewing supports on top of the cloth lining.

Molded Spine

A custom-molded spine was created out of cave paper to support a natural hollow leather structure while retaining the appearance of a tight back binding. This molded paper spine also had the added benefit of protecting the spine of the text block from absorbing access moisture during rebacking (fig. 16).

Leather Cover Repair

For cover repair, the board leather was stabilized and consolidated where it was worn and abraded. The leather was first consolidated overall with Zen Shofu wheat starch paste. A thin layer of SC6000 microcrystalline wax was further applied over the worn areas. Deep areas of leather loss and some areas of board loss were filled with pulped blotter combined with a 1:1 mix of Jade 403 PVA and wheat starch paste (fig. 17). Filled areas were further covered with toned kozo tissue and inpainted to improve visual cohesiveness of the leather.

A new calf leather was selected for rebacking that had a surface grain similar to the original. It was dyed with Selladerm leather dyes with a black speckled pattern. The reback leather was shaped and pared in preparation for the final binding steps. It was pared overall with a Shärffix machine and around the edges with paring knives to a flexible thickness suitable for molding over sewing supports.

Board Attachment

To reattach the boards, new supports were frayed and adhered to the outside of the boards beneath the lifted leather. The supports were adhered with a mix of wheat starch paste and

Fig. 17. During treatment, losses in leather and board are filled with pulped blotter before applying toned tissue and inpainting.

Jade 403 PVA. The PVA was incorporated to help prevent the supports from slipping when the new leather was adhered during rebacking. Boards were further attached with spline lining flanges inserted beneath lifted pastedowns. Spine lining flanges consisted of one layer of cloth and two layers of kozo tissue, with one of the flanges spanning from the concertina guard. The prepared leather was then used for rebacking and tied up to dry in a finishing press.

CONCLUSIONS

After treatment, the printed pages were preserved securely and could flexibly function as was once intended next to the handwritten manuscript leaves. Using parchment binding conservation techniques proved successful to sew in encapsulations with paper hinges next to other paper gatherings. The unique encapsulated page format allowed us to retain the original covers and provide the user with a page-turning experience that would not have been otherwise achieved with a traditional screw-post encapsulated binding format (fig. 18).

Some advantages to the unique binding treatment included revealing the versos of a handwritten fragment and the first leaf, which were previously inaccessible due to being adhered overall to an inserted paper support. Being stored in an encapsulated sleeve, rather than a paper frame, exposed additional crossed-out handwriting that was not visible in the prior format. All printed leaves are now able to be experienced either within the binding format or removed from their sleeves for exhibition or digitization. Loose white interleaving sheets were replaced with new custom-toned sewn-in endsheets. Leaves with manuscript writing unexpectedly brightened in tone after acidity was reduced and iron gall ink was stabilized.

For long-term storage, treatment documentation and retained components, including the original leather spine, were stored in a folder within a cloth-covered clamshell. Should a future steward be interested in reversing treatment and testing another format, the binding treatment is easily reversible.

Fig. 18. Condition of the 1526 Prague Haggadah after treatment.

Following treatment, HUC has since used the binding during Passover celebration. Its historical technological advancements have been highlighted from tours to online virtual presentations with the Jewish Federation community, broadening exposure of the religious text history to a wider audience.

ACKNOWLEDGMENTS

Thank you to many colleagues who supported and played a role in the treatment of the 1526 Haggadah. In particular, Jessica Ebert conducted formal treatment photographic documentation, Kasie Janssen assisted in creating sleeves for the creation of the model, and Chris Voynovich constructed the final encapsulated pages used in the Haggadah treatment. Kathy Lechuga was integral in learning the practical process for performing the calcium phytate treatment. She provided mentorship after my attendance at the Iron Gall ink symposium in Champaign, Illinois. Laurel Wolfson and Jordan Finkin at Hebrew Union College guided treatment decisions and provided historical background.

REFERENCE

Kolbe, Gesa. 2004. "Gelatine in Historical Paper Production and as Inhibiting Agent for Iron-Gall Ink Corrosion on Paper." *Restaurator* 25 (1): 26–39.

FURTHER READING

Jacobi, Eliza, Birgit Reissland, Claire Phan Tan Luu, Bas van Velzen, and Frank Ligterink. 2011. "Rendering the Invisible Visible—Preventing Solvent-Induced Migration During Local Repairs on Iron Gall Ink." *Journal of Paper Conservation* 12: 25–34.

Maitland, Crystal. 2016. "Biennial University of Illinois Conservation Colloquium: The Iron Gall Ink Dilemma: To Treat or Not to Treat?" Paper presented at the 2016 Conservation Colloquium, Champlain, Illinois.

Maitland, Crystal. 2009. "Where Archival and Fine Art Conservation Meet: Applying Iron Gall Ink Antioxidant and Deacidification Treatments to Corrosive Copper Watercolours." *Book and Paper Group Annual* 28: 37–45.

Rouchon, Véronique, Oulfa Belhadj, Aurélie Martin, Frederik Vanmeert, and Koen Janssens. 2015. "Gelatin and Iron Gall Ink Corrosion: Evidence of a 'Stabilizing' Effect." Paper presented at the IADA XIIIth Congress, Berlin, Germany.

Tse, Season, Maria Trojan-Bedynski, and Doris St.-Jacques. 2012. "Treatment Considerations for the Haggadah Prayer Book: Evaluation of Two Antioxidants for Treatment of Copper-Containing Inks and Colourants." *Book and Paper Group Annual* 31: 87–97.

SOURCES OF MATERIALS

Calcium carbonate MW 100.086 (100 g)
Fisher Scientific
81 Wyman St.
Waltham, MA 02451
800-766-7000
https://www.fishersci.com

HP-06 Sekishu Tsuru kozo tissue, HP-04 Usu-Gami Thin (formerly Usu-Mino) kozo tissue
Hiromi Paper Inc.
2525 Michigan Ave.
Bergamot Station Unit G-9
Santa Monica, CA 90404
310-998-0098
hiromi@hiromipaper.com

50% phytic acid solution in H20 (250 mL)
Sigma Aldrich (MilliporeSigma)
PO Box 14508
St. Louis, MO 63178
800-325-3010
https://www.sigmaaldrich.com

Zen (Jin) Shofu Japanese wheat paste, 3 mil Mylar film roll, Hewit leather
TALAS
330 Morgan Ave.
Brooklyn, NY 11211
212-219-0770
https://www.talasonline.com

Bone laid handmade cotton rag paper
Twinrocker Handmade Paper
100 E. 3rd St.
Brookston, IN 47923
800-757-8946
info@twinrockerhandmadepaper.com

AUTHOR INFORMATION

ASHLEIGH FERGUSON SCHIESZER
Preservation Lab Co-Manager and Special Collections Conservator
Cincinnati and Hamilton County Public Library and the University of Cincinnati Libraries
Cincinnati, OH
schiesah@ucmail.uc.edu