Mummies in Museums

Utz Anhalt
Animal mummies in museums

Somayeh Kalesh Ranjbar
Dead by salt: The “Salt Men” of Iran. German Mining Museum, Bochum. Until August 8, 2021

Preventing spectacular visits

Petra Reinmöller
“1821: Napoleon’s end: St. Helena, Arenenberg and the birth of a legend”.
Napoleon Museum Arenenberg, Salenstein (CH): until October 24, 2021

New museums

Team of KANVA Montreal
Montreal’s Biodome will be re-opened August 31, 2021

Claudia Luxbacher
The new Documentation Centre Displacement, Expulsion, Reconciliation open June 23, 2021

Michael Stanic
How much New York is concealed in this Koolhaas press photograph from Paris?

New exhibitions

Team of Kunsthana Zurich (CH)
Strange Hodlers, erotic Klimts and the stylish Wiener Werkstätte. Until August 29 at Kunsthana Zurich

Team of the Smithsonian American Art Museum
Many Wests: Artists Shape an American Idea. A national tour from July 31 2021 to January 14, 2024

Team of Zentralinstitut für Kunstgeschichte, Munich
Come to Monaco di Baviera and see Italy. The exhibition “Naples And Campania. Books and Pictures from the Italian Paradise” at Zentralinstitut für Kunstgeschichte, Munich. Until Sept. 30, 2021

Team of The Guggenheim, New York
Away from the Easel: Jackson Pollock’s “Mural”. Till Aug. 30, 2021

Christian Mueller-Straten
Reconstructing a cut, restored, attacked and ageing painting
The Reconstruction of the Night Watch is on Show at Rijksmuseum Amsterdam until September 2021

News

Discussions from professional lists. This time: substitutes for the PEM2 datalogger, neglected Roman collections in Germany, unwanted donations and HVAC and Covid19.

Repair your network
A schedule for activists

Conservational projects

Alexandra Jeberien; Gisela Hüttinger
From the Oddy Test to a Standardised Pollution Test Method

Mary Hamilton French
Honoring the Past While Preparing for the Future: Conservation of a 15th Cent. Manuscript on the Life of St Augustine

The dark side

Ernst Haiger
Critical examinations reveal fake documents of German resistance fighters at the Museum of Military History in Dresden

Front picture: Prof. Dr. Bernd Lötsch, 1994-2009 general director of Natural History Museum in Vienna, is one of the few magicians of ecological museum presentations. He balances in his hand not his personal best friend, but the taxidermied / mummified dog of the Empress Maria-Theresia which is on show at Natural History Museum. Photo: Museum
Honoring the Past While Preparing for the Future: Conservation of a 15th Cent. Manuscript on the Life of St Augustine

Boston Public Library (BPL) is home to many cultural treasures, and Northeast Document Conservation Center (NEDCC) has frequently worked with the BPL for the past several decades to conserve and digitize items from their collections. In 2019, the BPL brought a 15th cent. manuscript on the Life of St Augustine to NEDCC for treatment and imaging. As the most extensively-illustrated Vitae Augustini still in existence, this manuscript is important to scholars and researchers because it contains many stories and anecdotes of St Augustine’s life not found elsewhere in any other recorded literature. Due to the extensive use of a corrosive copper-based pigment throughout the volume, many of the illustrations were cracked and fragmentary. As such, the volume was at significant risk of damage, even with the gentlest use, and could no longer be safely accessed by readers making conservation an immediate priority.

“The Life of St Augustine”

St Augustine of Hippo (354-430 A.D.) is considered to be one of the most influential Christian forefathers in Europe and is well known for his theological and philosophical writings. Perhaps his most important work is his autobiography, “The Confessions”, which consists of 13 books published when he was in his 40s. Although only a partial account of St Augustine’s life, it is still considered the most complete biographical record of any person from the 4th or 5th centuries, covering his dissolute and lustful young adult years, his period of spiritual turmoil and religious exploration, and finally his conversion to Christianity. Nevertheless, despite the detail with which St Augustine recorded his own life, Christians in the medieval period felt it necessary to add elaborate re-interpretations to these accounts that bore little resemblance to established facts.
This text is the most complete Augustinian iconography known to exist, containing 116 hand-inked miniatures and corresponding chapters. The manuscript is not quite complete; eight chapters are missing, although their loss seems to have occurred before the text was bound. The narrative is by no means comprehensive and most text accompanying the miniatures is brief. Rather than forming a fully-fleshed out story, the text serves as a short description of the depicted scene and is akin to a picture book.

Originally owned by the Order of the Hermit Friars of St Augustine, the manuscript was almost certainly created by one of its members. The Order’s own religious tradition was founded upon three fantastical and borderline apocryphal legends that portray St Augustine as a hermit, and the Order was well known for elaborating upon these legends and on other previously-existing stories in the life of the Saint. These increasingly fanciful reinterpretations may explain why the manuscript contains a number of scenes from the Saint’s life that are not found in other prior accounts.

One such scene in Chapter 116 in the manuscript details how the body of St Augustine was transported post-mortem from Hippo to Sardinia by 222 bishops during a time of religious persecution. The author quotes the *Cronica Eusebii* (Eusebian Chronicle) as the original source of this story and the use of a citation appears to verify the tale at first glance. However, the Chronicle itself ends in the year 325, a full 29 years before St Augustine’s birth, and so cannot support the author’s account.
Binding and text block condition

Upon receipt at NEDCC, the binding was relatively intact, considering its age, and had not been rebound or treated previously, an unusual occurrence for a medieval manuscript. The paper used in the book has a German origin (Speyer?), judging from the characteristic bull’s head watermarks. The text has been dated to between 1470-1485 and the binding was created approx. 10-20 years afterwards. The printer’s waste pastedown on the back board indicates that the binding was completed around 1494, as the leaf is from a known incunable printed in that year.

The volume was bound in a quarter alum tawed pigskin over wooden boards binding. The alum tawed skin was blind tooled with floral lozenges in diamond and club shapes. There were losses in the spine material at the head and tail, as well as over the raised cords. There was also some historical insect damage to the boards which luckily was inactive. Pastedowns and board attachments consisted of multiple layers of parchment manuscript and paper printers’ waste. The board attachments were very secure and so the binding was still in one piece.

The text block consisted of five sections of handmade paper bifolia sewn through the fold onto double raised cords. The illustrations, although plentiful, were fairly rudimentary and there was almost no gold illumination. Executed in simple colour blocks of red, blue, yellow, black, green, and ochre, the drawings are charming, lively, and humorous. The manuscript is characteristic of those produced after the popularization of the moveable-type printing press. Instead of parchment, the manuscript is executed on paper; cursive script is used rather than a formal book hand; and there are rough pen and ink drawings, not intricately illuminated miniatures.

The primary point of concern prior to treatment was the extensive fracturing of the paper underneath many of the illustrations. This fracturing was presumed to be due to copper ink corrosion since it only occurred in areas containing green pigments, and was particularly prevalent in areas where the green pigment was found on both recto and verso. The fracturing made the leaves very delicate and difficult to handle safely, and there were large losses in some heavily-affected areas. Even when turning the pages carefully, it was observed that the fractured areas were flexing and the edges were abrading each other, so mechanical damage was occurring with every single use. If left untreated, the manuscript would immediately have significant handling restrictions implemented to avoid further damage.

Conservation was therefore necessary, but the type and location of the media made treatment difficult to do safely. Moisture, heat, light, acids, and bases accelerate corrosion in copper-based pigments so the repair method needed to minimize the use of materials that include these agents of deterioration. Increased corrosion would further embrittle and damage the paper underneath the copper media, and would eventually lead to more cracking and loss in the illustrations. The aesthetics of the repairs were also a consideration, since all of the fractures ran through the illustrations. Because the illustrations were on both recto and verso, the cracks in the paper could not be subtly repaired from behind.
The binding was holding together fairly well, and this was largely due to the secure board attachments, unbroken sewing supports, and intact sewing around the raised double cords. However, the sewing was largely broken inside the text block and some sections were loose. The loose sections had enlarged or torn sewing stations, and many were split or partially split along the spine fold. During use, the sections were prone to sawing against the thread, so it was clear that the text block needed to either be resewn or have the sewing strengthened to prevent further damage. Re-sewing would have meant disbinding the volume, but disbinding would destroy historical evidence contained in the sewing and binding structure. Instead, it was decided to reinforce the existing sewing to stabilize the sections without removing the previous thread or disturbing the binding.

**Conservation:**

**Surface cleaning and consolidation**

After photographing the volume prior to treatment and carefully documenting its condition, the text block was surface-cleaned only in areas containing no media. Any loose material – dirt, feather pen trimmings etc. – was reserved. The surface dirt was, for the most part, heavily ingrained and so cleaning did not appear to make much of a difference. The media was tested for friability; while most of the media was fairly stable, the carbon black pigmented areas were friable. There were cracks in the heavily-pigmented areas, and some of the black media was flaking away. These areas were consolidated with ethanol and TRI-Funori, a gentle adhesive derived from seaweed. This consolidant was selected because it has a matte appearance when dry and so would not negatively affect the matte appearance of carbon-based media.

**Fine fiber stitch repairs**

After much consideration, the cracked areas of paper underneath the illustrations were repaired using a fine fiber stitch technique developed by conservators at the British Library to repair tears in a copper-corroded Mercator Atlas. The technique uses individual kozo fibers from blended Japanese paper to place almost-invisible bridges over tears using a minute amount of dry wheat starch paste. The repair resembles stitches, hence the name, but does not actually go through the paper, and it uses an infinitesimally small amount of moisture to limit potential damage.
to the copper media. Because the repairs are nearly invisible, this treatment could also safely be employed over the illustrations without negatively changing the aesthetic impact of the drawings.

To perform repairs, a single kozo fiber was picked up using pointed-tip tweezers and trimmed with scissors to approximately 2-3 mm in length. This additional trimming was necessary to ensure that the fibers were consistent in length and also to minimize the visual impact of the repair. The fiber was then dipped into a dry wheat starch paste and then blotted on a ceramic tile to remove excess moisture.

After blotting, the trimmed kozo fiber was applied to the fractured paper, laying the fiber across the breakage. After the fiber was aligned properly, it was very gently tamped down using a microspatula, and then placed underneath a Hollytex® and blotter packet. Because very little moisture is used in this repair method, the mends dried very quickly. It was necessary to work quickly as any delay in putting the fiber down once it had been dipped into the wheat starch paste could result in the adhesive drying to the point where the mend was ineffective. Once the mends were dry, this process was repeated as necessary, spacing the kozo fiber bridges approximately 1-1.5 mm apart. The bridges were placed along the entire length of the crack, and on both recto and verso to avoid tenting.

Before conservation, the cracks in the illustrations were causing the paper to flex. Mechanical wear from this flexing action had resulted in small losses. After conservation, this seesawing motion no longer occurred and the risk of loss was minimized. The repairs are nearly invisible and can only be seen under magnification. They are, of course, slightly more apparent under raking light, as seen below, but even in this example our photographer has boosted the image's contrast so that the repairs are visible for the illustrative purposes in EXPOTIME!

**Filling losses**

After stabilizing the cracks in the paper, the larger paper losses caused by long-term copper corrosion were filled with Gampi paper, a Japanese paper made with fibers from the Gampi tree (*Daphne sikokiana*). The curators were given the choice between leaving the fill paper as-is, meaning that it would be a light cream color not dissimilar to the paper of the text block, but immediately visible in the context of the illustrations; or having the fill paper toned to a sympathetic green color so that it would blend into the background of the illustration. After careful consideration and discussion, the client opted for the untoned Japanese paper fills, both to minimize the introduction of outside materials and to make it immediately obvious to the viewer that this was a repair and not part of the original material.
To create the fill pieces, the outline of the loss was traced onto a piece of Melinex®. A needle tool was used to score a medium weight Japanese Gampi paper along the outlines of the loss, and then the paper was torn along this score line so that the fill piece had a lightly feathered edge. The fill piece was checked against the outline of the loss to make sure that it was neither too large nor too small, and then the fill piece was adhered over the loss area with a very dry wheat starch paste.

Filling the losses prevented the paper from unnecessary flexing. The feathered edges of the inserted pieces acted similarly to the fine fiber stitch repairs, which means that the fragile loss edges were no longer in danger of breakage. Because only a small amount of Gampi fibers from the feathered inserts extended onto the illustrations, it minimized the input of moisture and avoided any obscuring the illustrations.

**Mending and guarding**

Once the fracturing and losses were mended, the rest of the text block could be repaired. Mending tears and filling losses along the edges of the text block was very straightforward, requiring only local humidification to unfurl creases and folds, and basic repairs with Japanese paper and a dry wheat starch paste. In areas where the paper was cockled, fills and mends were shaped during drying to follow the undulation of the rest of the text block.

Guarding the spine folds *in situ* was a little more complicated. Although the text block only contained five sections, adding guards could introduce additional swell at the spine and place strain on the alum tawed skin. This could risk splitting the spine material or board attachments, so a light weight Japanese tissue was used during guarding to reduce the amount of bulk. It was too messy and difficult to paste up the Japanese paper and then insert it between bifolia – the paper was too flimsy and fragile to be pushed through with tweezers when pasted, and the paste could potentially transfer to areas where it shouldn’t be.

Instead, slips of Japanese kozo paper were inserted between the bifolia, the adjacent paper was masked off using Melinex®, and then wheat starch paste was applied to the repair tissue. The repair tissue was then wrapped around the spine fold. The pasting-out piece of Melinex® was then removed and a layer of Hollytex® was placed between the bifolia to prevent them from adhering.

The newly-applied guard was dried by sandwiching the repaired area between Hollytex® and blotter packets. Gentle pressure was applied with a bone folder until dry. This resulted in a guard that was nearly invisible, did not distort or discolour the surrounding paper, and did not require disbinding the text block. Because the original sewing was not removed, many of the guards in the innermost bifolia were placed individually between sewing stations to avoid placing the tissue repairs on top of the previous sewing thread.
Stabilizing the sewing

After the sections were guarded and the torn sewing stations mended, the original sewing was reinforced using a linen thread similar in appearance to the previous thread. A slightly thinner thread than the original was selected in hopes of keeping additional swell to a minimum. The sewing was reinforced around the previous thread, using the existing sewing stations and sewing style.

As the previous sewing was only loosely packed it was possible to place the new thread between the old thread when wrapping it around the raised cords. Since the alum tawed skin was missing over the raised cord areas, there was no need to disbind or lift any spine material to gain access to these areas. It was nevertheless a delicate process, since the volume could not be opened fully and inserting the needle into some of the sewing stations was difficult.

The previous sewing was loose and broken within the text block – unsightly, and also prone to tangling. The loose thread was laid over the new sewing and adhered in place using small amounts of dry wheat starch paste. This creates the appearance of the original sewing and holds the loose threads in place, but is also easily reversible if needed. The new sewing complements the appearance of the previous sewing, but slight differences in hue and thickness make it possible to distinguish between the two. These obvious visual differences will make it possible for scholars to differentiate between new and original materials in future studies of the book.

The spine material had losses, but was relatively stable otherwise. The decision was made to not to fill the losses in the alum tawed skin in order to avoid introducing new materials and adhesive unless absolutely necessary. One small split along the spine was reinforced with alum tawed skin and Lascaux 498 HV adhesive since there was concern that this could split further if not stabilized.

Digitisation

After conservation, the manuscript was digitized in NEDCC’s Imaging Services Lab in compliance with FADGI.
specifications. Creating visually accurate, high resolution images of the text block and binding is an important step in the preservation of the manuscript because it allows the Boston Public Library to offer primary research access via the digital surrogates. Even after conservation, the manuscript will still need to be handled carefully, and offering digital access to the volume will reduce mechanical stress from handling. The Life of St Augustine manuscript is now available worldwide on the Digital Commonwealth.

Conclusion

This beautiful 500-year-old manuscript presented a number of unique challenges throughout the course of treatment. Its many illustrations were cracked and at significant risk for loss or damage, so treatment was imperative. However, the repair materials and method needed to be chosen carefully to avoid exacerbating the already present copper corrosion and preserve the aesthetics of the hand-drawn miniatures. Additionally, the manuscript had never previously been conserved, a rare occurrence for a 15th cent. binding, and so conservation treatments needed minimize the loss of original materials, stabilize the structure to prevent future damage, and avoid introducing too many new materials. After much thought and consideration, the cracked miniatures were repaired with nearly invisible kozo fibers, and the book was resewn without ever being disbound. This treatment plan successfully stabilized the text leaves and binding while minimizing the visual impact of the repairs. The volume is again accessible to researchers – albeit with gentle handling – instead of being strictly off-limits, and can now be viewed digitally worldwide.

Acknowledgments

Special thanks to Bexx Caswell-Olson, Director of Book Conservation at NEDCC, and Terrance D’Ambrosio, Director of Imaging Services at NEDCC, for their encouragement and support of this project, Nora Pfund, former NEDCC Collections Photographer, for taking the beautiful photographs of the conservation process, Ann-Marie Miller of Codex Conservation for teaching me the fine fiber stitch repair technique back in 2013, and Beth Prindle, Head of Special Collections, Jessica Bitely, Preservation Manager, and Jay Moschella, Manager & Curator of Rare Books, of the Boston Public Library for their thoughtful input on treatment decisions throughout the process.

All photographs by Nora Pfund.
Contributors of the issue:

Dr. Utz Anhalt MA  
okualla@gmx.de

Ernst Haiger  
Freelance historian  
Müllerstraße 29, 12207 Berlin  
and Friedrichstr. 87, 45468 Mülheim an der Ruhr  
Haiger@gmx.de

Mary Hamilton French MA  
Associate Book Conservator at the Northeast Document Conservation Center (NEDCC) in Andover, Massachusetts. She earned an MA in Book Conservation from West Dean College in the UK. Mary previously held positions at the Cambridge University Library, Cambridge, England and Wellesley College’s Clapp Library, as well as internships at Harvard Business School’s Baker Library, the Boston Athenaeum, and the Leather Conservation Centre in Northampton, UK. Mary is a Professional Associate of the American Institute for Conservation (AIC). 
mfrench@nedcc.org

Prof. Dr. Alexandra Jeberien  
HTW Berlin, Studiengang Konservierung und Restaurierung / Grabungstechnik  
alexandra.jeberien@HTW-Berlin.de

Somayeh Khaleseh Ranjbar  
Born 1981 in Karaj, Iran, studied social work sciences at Tehran University, Iran, and sociology at Puna University, India. Since 2014, she lives in Germany.  
somayeh.ranjbar@gmx.de

Claudia Luxbacher MA  
Marketing Atelier Brückner  
Krefelder Straße 32, 70376 Stuttgart, Germany  
T. +49 711 50 00 77 - 126  
presse@atelier-brueckner.com

Christian Mueller-Straten  
Art historian and publisher, see imprint

Petra Reinmöller  
Geschäftsführerin der PRZ Petra Reinmöller  
Kommunikation GmbH  
Turmstr. 10, 78467 Konstanz, Germany  
T. +49 (0)7531 369 37 10  
p.reinmoeller@pr2.de

Dr. Michael Stanic  
Art historian, specialised in architecture and city planning  
Rugendasstr. 4, 86153 Augsburg, Germany  
T. +49 (0)151 2468 1024  
dr.michael.stanic@gmail.com  
https://www.museumaktuell.de/index.php?site=wissenschaffter_2&TM=9

We are thanking all museum teams engaged in this issue.

Imprint and contacts

Verlag Dr. C. Mueller-Straten  
Kunzweg 21 D.81243 Munich, Germany  
T. 0049-(0)89 839 690-43, Fax -44  
https://www.museumaktuell.de/

Editor in chief: Dr. Adelheid Straten  
CEO: Dr. Christian Mueller-Straten

Ads: If you want your name, activities and solutions spread globally to at least 200,000 to 300,000 recipients worldwide, go to https://www.museumaktuell.de/index.php?site=preise&TM=8&lang=DE

For global players wishing to reach museum specialists worldwide, the contacts are

Kultur-Promotion Mark Häcker  
Südstrasse 26, 47877 Willich, Germany  
kultur.promotion@gmail.com  
Mobile: 0049-(0)1590 169 650 5

For placing your articles, offer us your contribs via verlagcms@t-online.de or call us