An Alternative Approach to Rebinding Medieval Manuscripts

Emily Lynch, Sherman Fairchild Post-Graduate Fellow in Conservation

Thaw Conservation Center, The Morgan Library & Museum

Introduction:

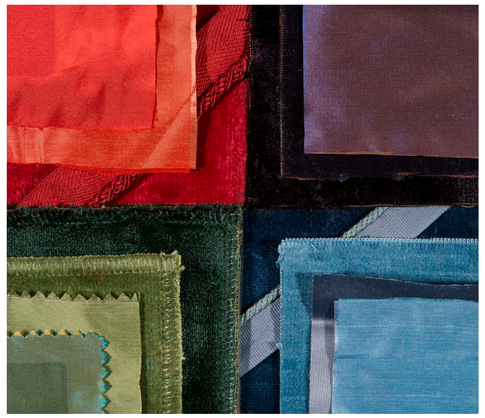
Conservators are often called upon to rebind medieval manuscripts when their current bindings are unsuitable or harmful to the textblock. Traditionally, rebinding has involved the use of a variety of materials used historically in bookbinding, such as leather and wood. These materials have questionable suitability for use in conservation due to their acidity and aging properties, yet they are still often employed for reasons of aesthetics, historical faithfulness and favorable working properties. Conservators at the Morgan Library & Museum are exploring new approaches to rebinding that combine conservation-grade materials and modified structural features to best protect the textblock for long-term storage and handling, while still being aesthetically appropriate and historically sensitive for medieval materials.

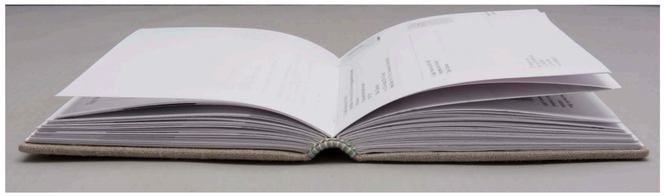
Binding Features:

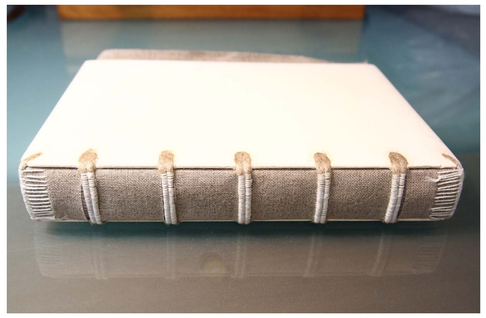
The structural goal was to create a binding with period-appropriate features and modifications to control the opening with no adhesive on the textblock without using a concertina. Several models were created to explore structural properties and different options using only conservation-approved materials. To that end, the book features:

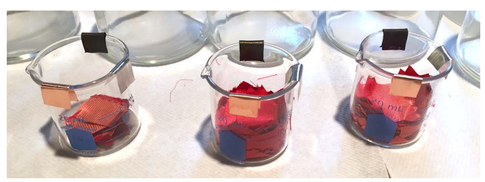
- packed sewing, all-along on double cords, which are laced through the boards, allowing for a controlled opening
- new parchment endleaves
- a "floating" slotted linen spine lining adhered to the inside of the boards and to the covering linen, but not to the spine folds of the textblock
- chamfered boards made from laminated museum mat board
- 100% linen covering material
- back bead primary endband sewing over a flax cord core, sewn through the slotted linen lining
- front bead secondary endband sewing which is sewn through the linen cover and the slotted spine lining, providing a mechanical attachment and further controlling the opening

For a more decorative and historical appearance when on display, a chemise based on 15th-century examples is being created from Oddy tested materials, such as linen and cotton velvet. The chemise will be removed when the book is not on display, so it needs to meet the standards for temporary use, but not permanent storage.









MS M.917/945, p. 302. The Hours of Catherine of Cleves. One of several chemise-covered books throughout the textblock.

Results and Discussion:

As expected, some of the traditional materials used in bookbinding, such as leather and wood, did not fare well during the Oddy test, while tawed skins and parchment were considered acceptable. Both 100% linens passed for permanent use and thus were approved for the covering material. The results of the tests for the chemise materials will help direct what is selected for the display chemise, along with input from the curator. Particularly, a linen faced velvet (69% cotton and 31% linen) passed for permanent or temporary storage for all metals, while still satisfying all of the aesthetic requirements.

Overall, both conservators and curators were satisfied with both the structural and aesthetic features of the proposed bindings. The bindings are functional and safe for the textblock, while still maintaining a sense of the historical structure. In the coming months, a chemise mock-up will be prepared as proof of concept for final approval. Further testing of the materials through instrumental analysis is planned the near future.

Materials Testing:

All of the materials used for rebinding were evaluated using the Oddy test - an accelerated aging test designed to measure the off-gassing potential of materials by visually observing the corrosion products on coupons of lead, copper, and silver placed in a sealed container with a sample of material to be tested. The jars are kept at 100% relative humidity in an oven at 60 degrees Celsius for four weeks, then were removed and examined.

A total of 51 Oddy tests were conducted, covering a variety of materials for both the binding and the chemise, including wood, leather, alum tawed, parchment, linen, and a wide range of textiles. A sampling of the results is presented below. The chemise testing includes materials for a smooth textile inner lining, a small cord trim, and a velvet outer lining.

Material	Cu	Pb	Ag
Control	P	T	P
Aged wood	T/U	U	P
New wood	T	U	P
Tawed Calf	P	T/U	P
Tawed Goat	P/T	U	P
Red goat leather	U	U	U
Brown calf leather	U	U	U
Calf parchment	P	P/T	P
Natural Linen 100% Linen	P	P/T	P
Tailor Canvas 100% Linen	P	P	P
Scarlet Cambridge Cord 100% Mercerized Cotton	P/T	T	P
Red Rashmi 37 100% Silk	P	T	P
Coral 100% Silk Taffeta	P	U	P
Persia Coral 100% Linen Faced Velvet	P/T	P/T	P
Parsley Cambridge Cord 100% Mercerized Cotton	P/T	U	P
Grasshopper Cambridge Cord 100% Mercerized Cotton	P	U	P
Green Rashmi 17 100% Silk	P	T	P
Leaf Dynasty 100% Silk Taffeta	P	U	P
Persia Leaf 100% Linen Faced Velvet	P	P	P
Amur Verde Palude 100% Silk Face Velvet	P	P	P
Celestial Blue Cambridge Cord 100% Mercerized Cotton	P/T	U	P
Prussian Cambridge Cord 100% Mercerized Cotton	P	U	P
Rain Dynasty 100% Silk Taffeta	P/T	U	P
Teal Gissey Plain Satin 100% Trevira CS	P	U	P
Persia Azure 100% Linen Faced Velvet	P	T/U	P
Blue Metropolis 50% Silk, 50% Bamboo	P	T/U	P
Plum Strata Cord 75% Polyester, 25% Cotton	P	T/U	P
Purple Rashmi 22 100% Silk	P	T	P
Navy Folio 100% Silk Face Velvet	P	U	P
Amur Melanzana 100% Silk Face Velvet	P	T	P

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