Leather Symposium - Tentative Schedule

8:30-8:45a  INTRODUCTIONS
8:45-9:30a  A Virtual Tour of the J Hewit & Sons Tanner - David Lanning
9:30-10:00a A Brief History of (a) Time - Dawn Walus
10:00-10:30a QUESTIONS/BREAK
10:30-11:30a Panel: Discussing leather standards - Holly Herro
11:30-12:00p Love it or hate it - James Reid-Cunningham
12:00-12:30p QUESTIONS/LUNCH
12:30-1:00p LUNCH
1:00-1:30p Materials Used for the Application of Japanese Paper Repairs - Emilie Demers
1:30-2:00p Replicating Original Leather Surface with textured repair - Sarah Reidell
2:00-2:30p SINTEVA Cuirs - Ségolène Girard
2:30-3:00p QUESTIONS BREAK
3:00-4:00p The FULL TOOLKIT Approach - Shelly Smith
4:00-4:30p QUESTIONS/DISCUSSION

A Virtual Tour of the J Hewit & Sons Tanner and the Leather Manufacturing Process

Lanning, David

The aim of David’s presentation, is to give an insight into the way J Hewit & Sons produce their bookbinding leathers, by way of a virtual tour of our factory, using slide, diagrams and movie clips. The presentation will serve as a virtual tour of the Hewit factory and will take you through the leather whole production process including:

- The source of the raw material we use
- The various states we can purchase the skins in, such as ‘wet-salted’, ‘pickled’ or ‘native-tanned.’
- The structure of skin (from hair-on to pre-tanning)
- De-hairing - Liming - Fleshing - Scudding - Tanning - Dyeing and re-tanning - Finishing

A Brief History of (a) Time: Reflections on 53 Years of Leather Conservation at the Boston Athenæum

Walus, Dawn

This presentation will discuss examples of past and present materials and methods employed to preserve the leather bindings at the Boston Athenæum. Founded in 1807, the Boston Athenæum remains one of the oldest independent libraries and cultural institutions in the United States. From fine bindings to commercially made ledgers, leather bindings can be found not only in the rare book collection, but in the circulating collection as well. Both collections provide many examples of historic bindings in varying quality leathers in various states of deterioration. Since 1963, Athenæum conservators have dedicated themselves to the care and repair of paper-based materials—including leather bound books—with inherent historic, ar-tistic, or literary value. Consider early leather conservation endeavors, made before the establishment of the conservation program, in the form of rebinding, consolidating of leather bindings with Liquick Leather, and various acidic enclosures. Later there were efforts to clean and dress leather bindings. Today, leather binding/rebinding is still performed but is limited to Special Collection materials, and is carefully considered by conservation staff in consultation with the Curator of Rare Books and Manuscripts. Other preservation efforts include: working with Facilities staff to secure the building envelope and maintain a stable preservation environment; removing acidic brown paper wrappers and other acidic enclosures; removing deteriorated leather from bindings and replacing/rebinding in cloth or paper; and consolidating old leather with Klucel-G in ethanol or isopropanol. In addition, Conservation staff has performed preliminary research on the identification and removal of Liquick leather from bindings and has prepared and compared leather consolidation recipes containing Klucel-G in various solvents.

Materials Used for the Application of Japanese Paper Repairs in the Conservation of Leather Bound Books

Demers, Emilie

Books have historical importance both in the written word and the materials used for their construction. Looking at the increasing number of books in need of conservation, many techniques have been developed in the last few decades. Knowing the number of books only keeps growing indicates a long future for book conservation and the need for research looking for alternative solutions. In order to accommodate the ever growing demand, such solutions have explored how to create strong and stable repairs which do not require the use of leather. The workmanship of leather preparation is important in the transmission of knowledge. These skills allow for a better comprehension of the materials and how they behave under various conditions through bookbinding, crucial in book conservation. Although the art of bookbinding and leather preparation are important and still considered in conservation, other options include the use of Japanese paper. These options prove to be cost effective and time efficient. Japanese paper is a material commonly found in a great number of labs and has many conservation qualities. During treatment, it may be coated or come in contact with various materials. For the purpose of this research, a selection of three materials were tested on Japanese paper toned with acrylic paint: Cellugel, SC6000, and PVAC. The object of this project is to observe how these materials affect the physical strength of Japanese paper by performing a fold endurance test. In order to observe the viability of such solutions through time, two thirds of the samples underwent accelerated aging. The results from the fold endurance testing show that all the samples decrease in strength after two rounds of aging although the Toned Japanese paper coated with Cellugel and SC6000 had close to the same strength as the unaged sample. Other surprising results were after one round of aging where the Toned Japanese paper increased in strength, as opposed to all the other samples. The Toned Japanese with Cellugel and the Toned Japanese paper with Cellugel, SC6000 and PVAC both decreased drastically. The former after a second round of aging, while the latter after the first round of aging. Additionally, a selection of samples will undergo SEM-EDS analysis. This step will potentially give insight on the interactions between the materials and the paper substrate. Conclusions may show a correlation between the strength of the sample and the penetration level of the material used.
The inherent vice of tanned leather contributes to the failure of leather bookbindings, especially those dating from the 19th and 20th centuries. For this reason the use of tanned leather in the repair of leather bookbindings declined over the last forty years in institutional conservation programs, even as tanned leather remains common in private practice. For private clients, tanned leather suggests high quality in a binding. This is often a cosmetic concern for the client. Conservators commonly advocate repairing materials with like materials, but this has not been the case recently with books bound in tanned leather. Until the 1980s, leather rebacking was the primary repair technique used on damaged leather bindings with loose boards or spine. The decline of leather rebacking occurred at the same time as book conservation training moved away from an emphasis on craft skills, resulting in fewer practitioners with the hand skills necessary to do traditional methods of repair. Rebacking is an intrusive process, and conservators conflated this inherently intrusive process with the suitability of using tanned leather in any repair. New tannages developed at the end of the 20th century greatly improved the durability and stability of bookbinding leathers, providing conservators with new options for utilizing tanned leather.

A survey of traditional leather binding repairs will elucidate situations where the use of tanned leather is acceptable or even desirable given contemporary conservation principles. An evaluation of the characteristics of bindings suitable for repair using tanned leather will be followed by a summary of the training needed to execute these repairs and an exploration of the suitability of cosmetic treatments that may alter the appearance of a historic binding.

**Discussing Leather Standards: A group effort to understand the material properties of all leathers, both old and new**

*Herro, Holly*

“Why does modern leather deteriorate faster than older leather?” The leather discussion group is a small group of book conservators that formed in 2016 to discuss observations on leather and leather dyes traditionally used in conservation. The goal is to determine the best products available to suit conservation needs and, if necessary and feasible, to make those needs more apparent to product manufacturers. Early observations by the group, corroborated by multiple sources, include that leather produced...
prior to the industrial revolution has generally maintained a more adequate state of preservation than leather produced after that time. One widely known change during the industrial revolution includes the increased presence of sulfur dioxide in the air which, when absorbed by leathers, increased the rate of the hydrolytic breakdown of the fibers. Shifts from locally managed farms to large-scale operations also began to take place as the result of increased urbanization, resulting in changes to the diets and living conditions for host animals. Additionally, tanners have confirmed that in the United States, both the need to increase production and Environmental Protection Agency rules required changes to the tanning processes. How have these variations in environmental conditions, animal husbandry, and changes to the tanning processes combined to lead to differences in the quality of leather produced since the advent of the industrial revolution? The group has accumulated a collection of discarded leather-covered boards and is in the process of working with students to perform testing on fibers from both deteriorating and stable skins. Tests, both in process and proposed, include:

- DNA studies on skins produced before and after the industrial revolution
- Further examination of the correlation between skin stability and materials used during the tanning process, including but not limited to tanning agents, leather pH, and dyes.
- Review of the efficacy of former tests to determine leather stability
- Pollen testing and provenance studies to determine whether there is a correlation between geographic location and leather stability.

During early discussions, the group decided to get input from tanners, bookbinders and conservators, and scientists in multiple disciplines including genetics and zooarchaeology, to build a broader understanding of observations made in the field. Questionnaires were created and tailored separately to bookbinders and tanners, then tested among a small group of individuals in preparation for dissemination to the larger leatherworking community. The questions for bookbinders and conservators focus on desired skin qualities, workability, observations on longevity, preferred dyes, and whether any changes in skin quality have been noted during the course of the person's career. Questions for tanners focus on tannins and dyes used, skin preparation, the tanning process, documentation of process changes, and the reasons behind them over the decades. Thus far, responses have been informative, indicating a need to continue the discussion. During the proposed panel session, the group will provide updates on the testing progress, summarize responses to the questionnaire, and ask for input from the conservation community.

The FULL TOOLKIT Approach to Leather Repair at the Library of Congress

Smith, Shelly

Leather is one of the materials used by the Library of Congress (LOC) in its treatment of leather objects, including the repair and rebinding of damaged leather bindings. When planning treatments, conservators articulate a set of requirements that they want the new repair material to meet. The requirements may be aesthetic, favor certain physical properties such as rigidity or flexibility, or specify a choice between a strong or a weak material.