Leather Selection and Use: The Impact of Conservators' Choices

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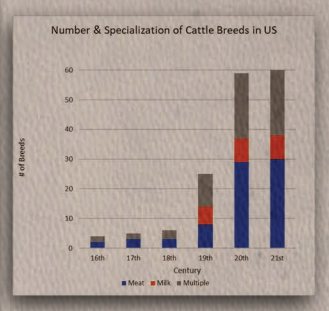
Part of ongoing research by the Leather Discussion Group, formed in 2016 by book conservators interested in acquiring a better understanding of leather and leather dyes with the goal of conveying conservation needs to leather manufacturers.

Goals

- Identify significant contributors to leather quality
- Assess the potential impact of changes in the leather manufacturing process
- Explore current trends in leather use for conservation
- Maintain communication with leather manufacturers to convey and discuss findings

Clockwise from upper left: Pared leather from the 1940s showing how the binder also thinned the hinge area. A historic leather binding in good condition. More reent leather bindings showing red rot.



Previous Work:

- Reviewed previous and ongoing leather research projects
- Examined changes in the tanning process
- Researched changes in animal husbandry
- Replicated several known leather tests
- Gathered samples for future testing
- Surveyed leather users

Above: Chart showing increase in and specialization of U.S. cattle breeds from the 16th to 21st century.
Right: A 2017 replication of the PIRA test.

Top left: Goatskin in a lime bath.; Bottom right: Salted skin awaiting traditional taning.

Ongoing Work:

- Experimental tanning for upcoming testing
- Metagenomic testing at multiple stages of tanning process
- Isotopic testing at multiple stages of tanning process
- Creating georeferenced database to synthesize both LDG and others' research.

Leather Selection & Use Panel:

- Gathered subject experts (pictured at right) including conservators, tanners, and scientists for panel discussion.
- Recording available for duration of the 2021 AIC conference!

Panelists: Top row (L-R): Theresa Emmerich Kamper; Jesse Meyer; Jay Howlett; Leroy Graves, Rosie Bolton. Middle Row (L-R): Bill Minter, David Lanning, Steve Siegel, Rene Larsen, Patricia Engle. Bottom row (L-R): Eric Themmen, Lara Kaplan, Caroline Solazzo, Elena Badea, Laura Weyrich.

Panel Summary

Leather Users

- Leather is used for its aesthetics, mechanical properties, and traditional nature.
- Some panelists also use alternate materials in lieu of leather; one prefers them.
- Attendees would be more inclined to use leather if:
  - It is known to be good quality (44%)
  - Treatment demand requires it (38%)
  - They had more training in its use (27%)

Tanners

- Today's leather is far superior to leather from the 19th/early 20th century.
- All tanners strive to produce the best quality leather they can.
- Tanners rely on scientific results in combination with long-standing methods to guide leather manufacture
- Economics are a factor, and yet specialist tanners are motivated to produce leather that meets users' needs.

Scientists

- Cross-disciplinary research on leather continues to advance.
- Analysis results support usable benchtop techniques such as:
  - Micro Hot Table (MHT)
  - Fiber coherence analysis
- Conservation treatments sometimes contribute to leather deterioration.
- Sampling untreated leather when possible would be beneficial to future research.

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Elena Badea, Rosie Bolton, Theresa Emmerich Kamper, Patricia Engel, Leroy Graves, Lara Kaplan, David Lanning, René Larsen, Jesse Meyer, Steve Siegel, Caroline Solazzo, Eric Themmen, Laura Weyrich -
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