

Curator's Choice

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Considering the Consequences of Leather Dressings

The *Royal Savage* was a two masted schooner that fought in the American Revolutionary War. Originally built and scuttled by the British, it was raised, rebuilt, and used by the American revolutionary forces during the Battle of Valcour Island on Lake Champlain in 1776, where it sank a second time. The wreck was recovered in the 1930s by history enthusiast Lorenzo Hagglund. Much of the field of archaeological preservation science hadn't been discovered yet. Hagglund's attempts to preserve the small artifacts found among the ship timbers came from a place of care for the collection, but decisions he made had consequences for the collection today. The materials he applied to the collection 80+ years ago did not address the root causes of deterioration, and in some cases, actively harmed the materials he was attempting to preserve.



Figure 1: Leather shoe fragment NHHC. Images courtesy Naval History and Heritage Command Underwater Archaeology Branch.

For the past year, MAC Lab Conservator Arianna Johnston has partnered with the Naval History & Heritage Command (NHHC) Conservation, Research, and Archaeology Lab (CORAL) to address the conservation needs of the *Royal Savage* collection. One of the biggest mysteries was the leather shoe fragments that were treated with an unknown material (Figure 1). These leather artifacts turned their new archival storage materials

yellow within six months (Figure 2)! In recessed areas of the leather surface, there is an iridescent film (see Figure 1). No documentation in Hagglund's files explained what materials he may have used to preserve the leather.

Leather dressings were common practice for decades in libraries and museums across the world. Dressings are a mixture of compounds including oils, waxes, solvents, and other materials intended to lubricate, polish, and improve leather's appearance^{1,2}. By the 1980s, conservators began to examine the efficacy¹ of this standard treatment, in addition to dealing with the consequences^{2,3} of regular applications of leather dressing to large collections. Leather dressings often require reapplication to maintain a certain appearance and condition. Excessive use of these oils and waxes leads to tacky surfaces that collect dust, disfiguring fatty blooms that resemble mold, or staining of surrounding surfaces by migrating oils. The components of leather dressings can darken and become acidic over time, and they are very difficult to remove.¹ Dressings do not protect historic leather and often contribute to its degradation.

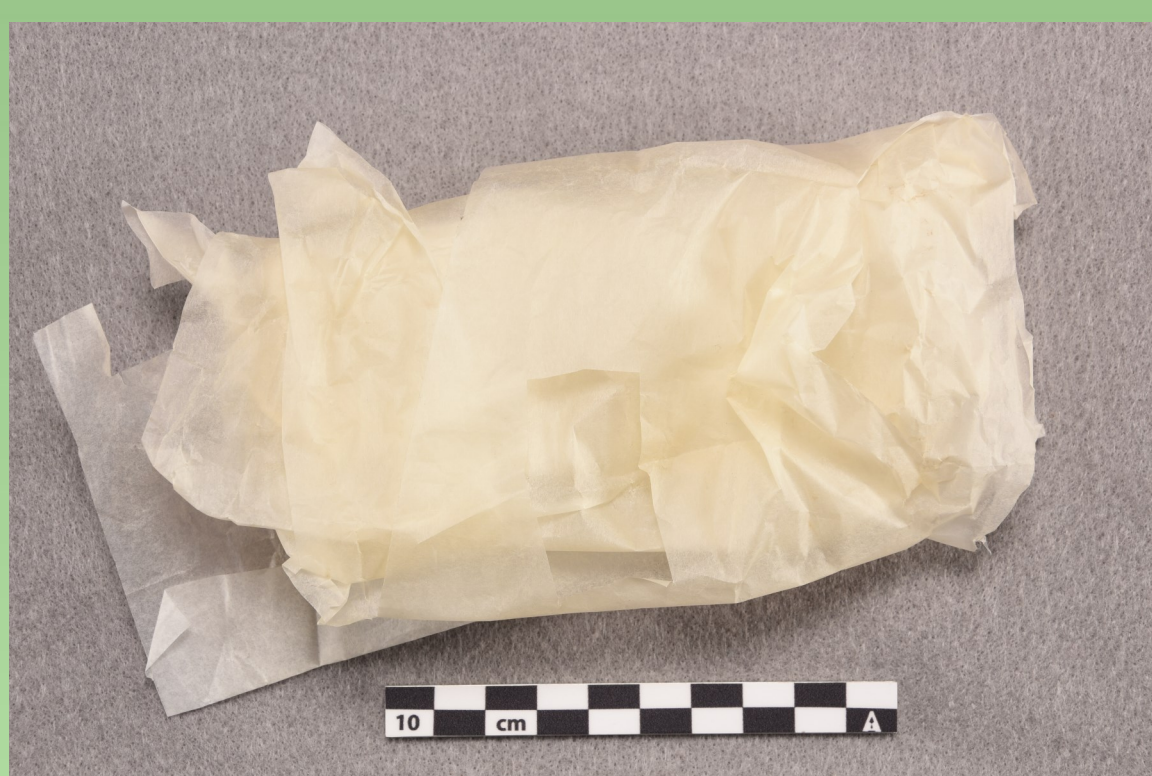


Figure 2: Yellowed packing materials. Image courtesy Naval History and Heritage Command Underwater Archaeology Branch.

Did Hagglund learn of this practice and apply a standard leather dressing to archaeological leather? Did he use a commercial shoe polish to try to shine the shoe leather? Did he concoct his own oily potion to attempt to displace the water bound in the wet recovered leather? Modern conservation ethics requires comprehensive documentation of all actions and materials used on artifacts. This gives future conservators and researchers answers to these types of questions. Modern conservation guidelines also urges conservators to think about how the materials you use on and around artifacts affects its component materials in the long-term. If a coating becomes yellow and brittle in a year, is it worth using? Will it be reversible in 5, 20, or 100 years? Will the artifact remain in a better condition with no intervention? Ultimately these shoe fragments will never be worn again as shoes, so why does the leather need to remain pliable? These questions are vital when designing methodology for preserving artifacts for the future.

The *Royal Savage* team is still working to analyze the oily deposits on the leather and the exudant that has transferred to its storage materials (Figure 3). Preliminary research suggests a non-drying oil but further analysis is pending.



Figure 3: Arianna Johnston presenting *Royal Savage* artifacts at a public Underwater Archaeology Branch lab tour.

Footnotes

¹ Raphael, Toby, and Ellen McCrady. "Leather Dressing: A Misguided Tradition?" *ICOM Committee for Conservation, 7th Triennial Meeting Copenhagen*, 10-14 September 1984, Preprints. Paris: ICOM, 1984. pp. 84.18.6 - 84.18.8

² Campbell, Brenna. "The Removal of Leather Dressing from Paper." *The Book and Paper Group Annual 28* (2009): 125-31. <https://cool.culturalheritage.org/coolaic/sg/bpg/annual/v28/bpga28-22.pdf>.

³ Peacock, Elizabeth E. "Mass Reconservation of Archaeological Leather: A Case Study." *ICOM Committee for Conservation, 7th Triennial Meeting Copenhagen*, 10-14 September 1984, Preprints. Paris: ICOM, 1984. pp 84.18.1 -