Recovery and Conservation of a Lapdesk Damaged by Water and Light Exposure as a Result of Hurricane Katrina

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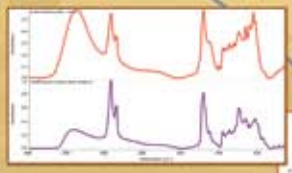
Recovery

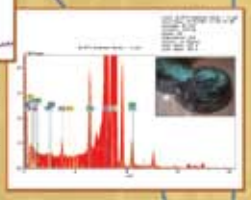
On August 29, 2005 Hurricane Katrina made landfall, reeking havoc upon the Gulf Coast of the United States as a Category 3 hurricane with 125 mph winds. In late September 2005, Winterthur Museum and the Winterthur / University of Delaware Program in Art Conservation sent the first of five teams to assist two museums in Biloxi, Mississippi in the recovery effort. The Ohr-O'Keefe Museum of Art and Beauvoir, The Jefferson Davis Home and Presidential Library were the museums chosen. Beauvoir lost over 50% of its collection and much of what was recovered was badly damaged. This early 19th-century lapdesk is one of the surviving objects.

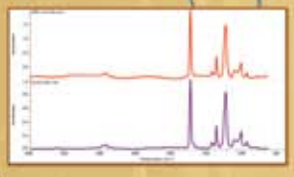
During the storm, the lid of the lapdesk was separated from the case. The lid was found in the debris on the first floor of the library, where it was on display (Above). The lower case was found in the bayou where it was exposed to significantly more moisture and light (Below).

Analysis

Before the lapdesk was treated, an extensive analysis was performed to determine the composition and condition of the copper alloy inlays, the remaining finish, and what adhesives were used in the production and repair of the desk. The desk was analyzed using cross section analysis, Fourier transform infrared spectroscopy (FTIR), Raman spectroscopy, x-ray fluorescence (XRF), and scanning electron microscopy-energy dispersive spectroscopy (SEM-EDS). The copper alloy inlays contained mainly copper and zinc with small amounts of tin, lead, and iron. The finish closest to the wooden substrate was shellac beneath a natural resin varnish and wax. The primary adhesive used in making the desk was hide glue, and the presence of poly (vinyl acetate) (PVA) indicated that the inlays had been previously repaired.







These are examples of some of the spectra that were generated during the analysis. FTIR suggested the presence of shellac in the finish (Top), as well as PVA on the verso of the inlays (Bottom). XRF indicated the composition of the copper alloy and related corrosion products (Center).

Treatment

The structure of the lapdesk was addressed first. The dovetail joint on the proper right rear corner of the case was readhered with hot animal hide glue, and lost or damaged areas of the substrate were filled with Ciba Araldite 1253 carvable epoxy over a hide glue barrier. In the area seen above, it was believed there was insect damage. A veneer patch that was not a good match for the grain on the surrounding veneer can also be seen. The old repair was reversed with the intention of replacing it with a patch that matched more closely. However, removing the patch revealed that the loss in the substrate was in the exact shape of the inlayed rosettes. It was then understood that the patch was part of the original manufacture of the desk and its position was restored.

In the images above, the areas of orange indicate losses in the rosewood veneer. These losses were filled with *dalbergia nigra*, the same species of rosewood the desk was veneered with originally. The orange areas in the images below are where the cast brass inlays were missing. Photographs taken before the hurricane show that some of these inlays were lost even before the storm hit.

New inlays were sawn from sheet brass to compensate for these losses. The fills were then adhered with PVA (1:1 AYAA/AYAC) to provide strength and flexibility as the wooden substrate experiences dimensional changes with changes in relative humidity. In addition to the inlays, one of the handles on the case and the barrels on one of the hinges were replaced.

Summary

Recovery from Hurricane Katrina is an ongoing effort for the Gulf Coast of the United States and for all who have chosen to be involved. It is an endeavor that has created a unique partnership between public, private, and non-profit communities. Winterthur and the University of Delaware have worked in collaboration with the sponsored museums, graduate students from four conservation programs, institutional and private conservators, the Mississippi Department of Archives and History, and Mississippi Gulf Coast Community College in order to support the cultural institutions of Biloxi. The conservation of this lapdesk has been the result of a strong commitment by all of these professionals and institutions. Completion of its treatment places Biloxi, Mississippi one step closer to overcoming a great hardship and being able to effectively interpret its rich history. It has been a great opportunity for members of three classes of Winterthur fellows to gain conservation experience with an object that has survived an ordeal that can only be described as a worst-case scenario. Hurricane Katrina has now become a chapter in the history of this lapdesk and its conservation will ensure that it will continue to be a part of the history of Biloxi.

Acknowledgements

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