Abstract

The Elms, built in 1901, is one of 10 historic properties administered by the Preservation Society of Newport County. This paper describes the development and implementation of a multi-year project to address the conservation of a set of large, Asian lacquer panels and smaller overdoors used as wall paneling in the Breakfast Room. Three of the four large panels and fragments of the overdoors are eighteenth century Chinese export. The fourth large panel, also Asian lacquer, was commissioned by the designer to fill out the room. The two year treatment of the panels was preceded by years of preliminary work developing the project as a priority, applying for institutional and private grants, and ultimately incorporating the project into the public education and marketing presentations. The project has become a model for long-range planning at the Preservation Society as well as a catalyst for climate mitigation at the Elms.

Keywords

Historic Houses, Long-Range Planning, Grant Funding, Lacquer, Chinoiserie, Climate

Introduction

The Preservation Society of Newport County was founded in 1945 for the purpose of preserving Hunter House, built in the 1740s, whose paneling, it was feared, was in danger of being collected by a famous museum. Almost 75 years later the Preservation Society owns ten properties reflecting a broad range of historic architecture and welcomes over 800,000 visitors a year [1].

Lacquer in the Laundry: Behind the Scenes at ‘The Elms’

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Fig. 1. The Elms, west elevation. © A. Carneiro.
One of the houses is The Elms (Figure 1). In 1898, Edward Berwind engaged Philadelphia architect Horace Trumbauer to design a summer residence modeled after the mid-eighteenth century French Château d’Asnières (c.1750). The interiors and furnishings were designed by Allard and Sons of Paris and were the setting for the Berwind’s collection of Renaissance ceramics, eighteenth century French and Venetian paintings, and Oriental jades. Construction of The Elms was completed in 1901 at a cost reported at approximately $1.4 million. The Berwind family owned The Elms until 1962, at which time the house and most of its contents were sold at public auction with the building slated for demolition and a shopping center built on the site. The Preservation Society prevailed upon the buyer, purchased the house, furnished it with loans, and opened it to the public, stepping in to save it much as it had done for Hunter House decades before. Its beautiful rooms and grounds now attract over 125,000 visitors a year. The creation of The Elms was a collaboration of client, architect, and interior designer that produced a remarkable work of architecture and a quintessential expression of the Gilded Age.

**Documentation and Planning**

The Elms was designated a National Historic Landmark [2] in 1996 and in 2000, a Historic Structure Report was commissioned [Mesick et al, 2000]. In 2003 significant interior projects at the Preservation Society properties were identified through a government grant-funded General Conservation Survey. The results of the survey were incorporated into a Long-range Collections Conservation Plan database (LRP) that provided a framework for identifying and prioritizing projects related to the interior architecture and collections of all the Preservation Society holdings.

*Fig. 2. The Breakfast Room (1901). ©PSNC Archives*
The highest conservation priority at The Elms was determined to be the conservation treatment of a group of black and gold Asian lacquer panels located in the French Regency-style Breakfast Room, which has other Chinoiserie elements as well (Figure 2). There are three large panels and three overdoors that were substantially fabricated in China for export to Europe in the eighteenth century. The large antique panels are approximately 207 cm wide and 300 cm high. Each of them was initially three separate panels - perhaps individual leaves from a folding screen - subsequently glued together. The large panels are in pairs with commemorative or domestic central designs surrounded by cartouches featuring typical landscapes, springtime motifs, and guardian lions. The overdoor panels are 165 cm wide and 115 cm high. They are decorated more generically with rocks, plants, and birds. These have a composite decoration: Asian lacquer fragments are integrated using European methods.

Though viewed at a distance in an architectural context - the visitors see the room, not so much the objects in it - there are beautiful and charming passages of work on the panels (Figure 3). The figures are delicate and the rendering of architectural surfaces and nature is simple and elegant. There is a high level of precision in much of the work. The Preservation Society hopes in the future to be able to present some of the beautiful details on the website.

**Funding**

Funding for the treatment of the panels has come from a number of sources. The LRP established clear priorities and generated early interest from The Elms House Committee, a volunteer support group. These
stakeholders arranged funding for a visit from a conservator with extensive experience in Asian lacquer to assess the nature and condition of the lacquer panels [3]. Subsequently, an Architectural Planning Grant was won that funded the development of a treatment plan, including site visits to view the eighteenth century. Chinese lacquer panels installed in Vienna at Schloss Schönbrunn and Palais Esterházy and consultation with site staff [4] and the conservator [5] who treated them. This preliminary introduction to traditional and modern materials, conservation treatment strategy, time, and costs was vital for the development of a treatment implementation plan for the panels at The Elms.

During the planning a variety of methods were used to assess condition, structure, materials, craft techniques, and history of treatment (Figure 4). These included using visible and ultraviolet light inspection to assess surface topography and treatment history [6]; cross-sectional microscopy to document craft technique and identify original and repair materials through their layer characteristics (Figure 5) [7]; x-radiography to reveal joinery details and structure [8]; scanning electron microscopy/energy-dispersive spectroscopy (SEM-EDS) to identify three campaigns of gilding [9]; Fourier infra-red transform spectroscopy (FTIR) to identify Western varnishes [10]; pyrolysis gas chromatography-mass spectrometry (PY-GC/MS) to identify the particular kinds of Asian lacquer and associated materials [11]; and x-ray fluorescence (XRF) for pigment identification [12]. Cross-section microscopy continues to be important for documenting historic repair techniques as well as revealing the effectiveness of varnish removal; samples removed after treatment can be used to assess how precisely layers are removed.

Fig. 4. M. Carr and A. Schopfer documenting one of the Chinese panels. ©C. Moore
The actual treatment of the panels was funded by a government-administered Conservation Project Support Grant [13], supplemented by generous grants from private foundations. The series of successful grant applications has allowed the project to go forward without interruption. It could be argued that good planning results in successful grant applications and - at least for the right project - successful grants beget more grants.

The Lacquer Project at the Elms

The Panels

The Elms evokes the tastes of eighteenth century Europe when lacquer panels of the scale found in the Breakfast Room would have been among the most exotic, mysterious, and costly materials of the day.

The panels are described in the Preservation Society’s Curatorial Database as:

‘A SET OF THREE CHINESE BLACK AND GOLD LACQUER WALL PANELS (Chinese, eighteenth century): (K’ang Hsi Period, 1662-1722); together with three matching overdoors and a wall panel in black and gold lacquer from the workshops of Allard et ses Fils of Paris (French, circa 1900); all finely painted in tones of gold, with figures strolling and conversing within elaborate pavilions enclosed by rockeries and foliage, the larger panels with borders of landscape vignettes, Fu lions and birds, the smaller panels with graceful arrangements of flowering branches enlivened with songbirds; all on black grounds’ [Curatorial Database, 2012].

Made specifically for export, large architecturally engaged black-and-gold Chinese lacquer panels such as these - some originally made as screens but subsequently modified - can be found in their original eighteenth century installations at Schloss Schönbrunn and Palais Esterházy in Vienna, the Chinese Pavilion at Drottningholm in Sweden, Schloss Falkenlust near Brühl in the Rhineland, and Esterháza, in Hungary. The
Elms panels were acquired by Allard as architectural salvage, most likely from a demolished eighteenth century Parisian townhouse. It is interesting to note that this use of antique material is repeated at The Breakers (1895), another Preservation Society site, where Allard used one wall and other fragments of salvaged eighteenth century boiseries as the starting point for a small “period” room he designed and installed there.

**The Treatment**

The Chinese panels suffered from all of the ills one would expect considering their life: shipment from China, an unknown period of installation/use in the eighteenth century with attendant degradation and subsequent repair, a period of decline to the point of salvage in the late nineteenth century, with storage, restoration, reinstallation in 1901 and yet another period of degradation. This included deformation and cracking of support, detaching lacquer, light and water damage, and the idiosyncrasies of several campaigns of repair including applications of varnish. Allard commissioned the fourth Asian lacquer panel specifically for the installation circa 1901- he had three antique panels but four walls. This panel was in very good condition and required little treatment.

The panels were treated in The Elms itself in order to avoid disturbing any equilibrium they might have achieved with the environment in their long-time location. Fortunately, a room in the basement was under-interpreted/utilized. As part of the Behind the Scenes tour of the house, it was an open space originally used as the Laundry Drying Room. After some interdepartmental discussion, it was agreed that the treatment of the lacquer panels in that space would provide an opportunity to show the conservation work in progress to the visiting public and still be able to reference the original use of the room. Trunks, baskets, and other exhibition objects were relocated. Appropriate lighting, work tables, tools, and other accessories were brought in to complete the conversion to a project work-space (Figure 6). The environmental conditions of the Breakfast Room were reproduced in the Laundry Drying Room by means of stand-alone humidification or dehumidification units according to the season.
A team was assembled to do the work: project manager/conservator, contract conservator, consulting conservator, and technician. Two interns spent some time on the project as well. The order of treatment for each panel proceeded as follows: de-installation of the panel in the Breakfast Room and delivery to the basement work space, reattachment of peeling lacquer and other consolidation, varnish removal, filling losses, compensation for missing decoration, application of protective varnish, delivery to Breakfast Room for reinstallation.

The panels were placed on a purpose built clamping table upon arrival in the workspace. Lifting lacquer was reattached: being quite stiff and brittle, the lacquer needed to be humidified and gently heated to make it flexible before attempting to reattach it. The lifting lacquer was then set down using hide glue [14]. This particular glue was selected for its setting time, workability, and solids content. Used warm, it also helped soften the brittle lacquer. Thinner flakes of decorative material were reattached with an acrylic dispersion [15].

Cross-sectional microscopy revealed that the panels had four layers of Western varnishes applied to the lacquer over the many years to brighten it up. The most recent layers had blanched and darkened. Having never really been Asian objects - they were put on a boat to Europe immediately after fabrication - it was decided that the earliest varnishes were historical evidence of Western restoration treatments and would be preserved. The two degraded coatings were removed while leaving two more historical layers intact. Ill-conceived modern repairs such as bronze powder paint and thick applications of wax were also removed.

After filling losses, compensation for missing black and gold decoration was undertaken followed by toning as necessary. The panels received a coat of varnish to protect the surface [16]. The varnish has solubility characteristics that allow it to be removed in the future without damage to the historic varnishes or repairs.

Education/Outreach

The project has been an important educational and interpretive tool, and an ‘Aha!’ moment for many of our visitors by providing a glimpse into what it takes to do just this one project, and, by projection, what must be involved when one considers the other nine historic houses at the Preservation Society. Visitors taking the Servant Life tour come into the work-space and are briefly addressed by one of the practitioners. The focus of the short presentation revolves around the antique nature of the Chinese export panels; the qualities of true Asian lacquer; the character of the gold powder decoration; the time-intensive conservation process; and any interesting discoveries. Individual questions were also encouraged. From February 2011 to November 2012, over 25,000 people have visited the project (Figure 7).

The project has provided a constant source of material to present to visitors, staff, members, supporters, and the greater conservation community. For the benefit of Preservation Society members, the project has been featured at the Newport Symposium (a major annual educational program), the Winter Lecture Series, and three special Behind the Scenes tours for the membership. The conservation community was engaged early on by inviting members of the New England Conservation Association (NECA) to critique the project and offer suggestions. An educational component of the IMLS grant supported a day-long Lacquer Roundtable at which our consultants, who happened to be from Canada, Austria, and the United States, along with our project conservator from Portugal, presented their current work to the Preservation Society membership and the regional conservation community (NECA). The international flavor of the presenters reflects a period of international interest in architectural lacquer. The project has been the subject of numerous other presentations that have served to raise the visibility of the Society holdings and allowed the project to come before an
international audience.

**Fig. 7. High school students taking the Servant Life tour visit the project. ©M. J. Petisca**

**Going Forward**

A specific investigation of the climate in the Breakfast Room was undertaken concurrently with the initial study of the lacquer panels. The Elms is heated in the winter, but moisture is not added to the environment in our un-insulated houses; instead we keep the temperature (T) as low as practicable. The relative humidity (RH) in the room during the months of June through September can be as high as 80%. High RH was determined to be a major problem affecting the panels, but one which could be reduced.

The decision was made to treat the space by itself and work to achieve a reduction in RH in the room. A dehumidifier was installed in the basement and dry air was blown into the air duct supplying the room. As it mixes with the ambient humid air, it lowers the RH overall. Relative to the Dining Room next door, a 10-15% reduction in RH was achieved in the Breakfast Room using the dehumidifier. This was confirmed using dataloggers to compare the two.

The future needs of the conserved lacquer panels were discussed and a more stable climate has been identified as a goal. A proposal has been made to combine the Dining Room, which contains an important collection of Venetian paintings, with the Breakfast Room and its lacquer panels, into a single climate zone. A system for dehumidifying to a maximum of 60% is being proposed. The system would supply dehumidified air to mix...
with ambient conditions in the two rooms to achieve reductions in RH overall and some cooling. A climate without the high levels of RH during the humid months would effectively prolong the lives of the now-conserved lacquer panels and the Venetian paintings as well.

Conclusion

While lavish late nineteenth century American Gilded Age era gold-leafed and painted architectural decoration abounds at the Society’s properties, it was the exotic Chinese lacquer, rare and restrained by comparison, that caught the imagination of The Elms House Committee. Their relatively small, targeted contribution, an expert’s report, resulted in making this project stand out and it became a fundable, multi-year initiative that reaped many benefits on an institutional level.

The Preservation Society joined an international community of sites with similar installations of lacquer and with conservators and administrators who have shared expertise and continue to act as resources for future work that may take place here or elsewhere.

By establishing the value of the lacquer panels, a discussion was held regarding climate conditions in the room; perhaps the most omnipresent risk at any historic house museum. By identifying a climate zone rather than a whole-house initiative, the use of simple, stand alone equipment could be used, not to try to control climate, but to make things appreciably better.

Because the work was done in an area visited by periodic tours, there was a steady and ready audience. There was a slowdown of process that needed to be accommodated, but the benefits were judged to be worthwhile. It was perfect opportunity for sharing the conservation process and our visitors seemed genuinely pleased. There
were additional opportunities such as lectures and study visits, sharing with the professional conservation community, Preservation Society membership, and other interested stakeholders.

This project was a learning experience as well for the Preservation Society with unanticipated positive outcomes. None of these endeavors were very complicated, mainly requiring tolerance for an extended time frame and flexibility. It seems fair to say that this kind of model would benefit any house museum with a visiting public.

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Endnotes

2. A designation awarded by the United States National Park Service for sites with national-level historical significance.
3. Marianne Webb, objects conservator, lacquer specialist, author of Lacquer Technology and Conservation. Webb Conservation Services, 7941 Redrooffs Road, Halfmoon Bay, BC V0N 1Y1 Canada
4. Dr. Wolfgang Kippes, Managing Director and Dr. Elfriede Iby, Head of Research and Documentation, Preservation Society.
5. Silvia Miklin-Kniefacz, Restaurierung Metall/Urushi, Bernardgasse 4/1, A-1070 Vienna, Austria.
6. UV light sources for inspection and photography were a Spectronics MB 100-X photoflood lamp and two Spectronics XX40 fixtures with 2-40W bulbs @48”, Long-wave UV.
8. X-radiography was carried out by Baker Testing Services, 22 Reservoir Park Drive, Suite 1, Rockland, MA 02370 USA, www.bakertesting.com [accessed 21 October 2013].
9. SEM-EDS analysis was carried out at Williamstown Art Conservation Center, 227 South Street, Williamstown, MA 01267 USA.
10 & 11. FTIR and p-GC-MS was carried out by Michael Schilling, Senior Scientist and Head of the Organic Materials Research Lab at the Getty Conservation Institute with Arlen Heginbotham, Associate Conservator, J. Paul Getty Museum.
12. XRF analysis was undertaken using a Bruker Elemental, portable XRF, Tracer III-SD, www.bruker-axs.com
13. Institute of Museum and Library Services, Conservation Project Support Grant.

14. Thick delaminating lacquer was reattached with #192 Bloom gram strength hide glue from Behlen. Recipe: 28.3 g dry hide glue to 46 g water (with 1% LMW polyvinyl alcohol added to improve long-term cohesion).

15. Thinner delaminating lacquer was reattached with Lascaux Medium for Consolidation®.

16. The panels were varnished using Regalrez® 1126 by Eastman, 15% in mineral spirits.

References:
Curatorial Database. 2012. The Preservation Society of Newport County, PSNC.10557.1-.7, 1 November 2012. Unpublished

Materials List:
Behlen Ground Hide Glue B940-00255, RPM Wood Finishes Group, Inc., Hudson, North Carolina 28638, USA
Lascaux Medium for Consolidation®, Lascaux Colours & Restauro, Barbara Diethelm AG, Zürichstrasse 42, CH-8306 Brüttisellen, Switzerland
Regalrez® 1126, Eastman Corporation, 200 South Wilcox Drive, Kingsport, Tennessee 37660, USA

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