

Exotic Surfaces; Chinese Export Lacquer
October 29, 2015

Rotunda

- 8:30 – 9:00 Registration - Galleries Reception
- 9:00 – 9:15 Welcome
- 9:15 – 10:00 Karina Corrigan – *Chinese Export Lacquer: Makers, Retailers, and Consumers*
- 10:00 - 10:30 Blythe McCarthy, Daisy Yiyou Wang and Molly McGath - *Recent Scientific Research on 14th – 17th Century Chinese Lacquers and Its Relevance to A Treatise of Lacquer Art (Xiushi lu)*
- 10:30 – 10:50 BREAK
- 10:50 – 11:20 Michael R. Schilling, Arlen Heginbotham and Herant Khanjian - *A RADICAL ESCAPE: Improving organic materials identification using an expert system*
- 11:20 – 11:50 Maria João Petisca – *Winterthur Museum Chinese export lacquer project – Development and conservation treatments*
- 11:50 – 12:20 Catherine Matsen – *Summary of analytical results of specific Winterthur Museum, Peabody Essex Museum and Philadelphia Museum of Art Chinese export lacquer pieces*
- 12:20 – 12:40 Questions
- 12:40 – 2:00 LUNCH – Visitor Center
- 2:00 – 3:10 Furniture Study with Karina Corrigan, Maria João Petisca, and Mark Anderson
Exhibit Tour with Josh Lane and Stephanie Auffret
2 groups with 30 minutes in each venue
Group A – Exhibit Tour (Galleries), Furniture Study (Room 410)
Group B– Furniture Study (Room 410), Exhibit Tour (Galleries),
- 3:10 – 3:40 Silvia Miklin-Kneifacz – *Chinese Lacquer on the Wall: Deterioration and Treatment Options*
- 3:40 – 4:00 BREAK
- 4:00 – 4:30 Marianne Webb – *The reproduction of Chinese export lacquer samples for research*
- 4:30 – 5:00 Questions and closing
- 5:30 - 6:30 Gathering and Refreshments – Galleries Reception

Speakers and Abstracts

Karina Corrigan - *Chinese Export Lacquer: Makers, Retailers, and Consumers*

H. A. Crosby Forbes Curator of Asian Export Art, Peabody Essex Museum

In the 18th and 19th centuries, Europeans and Americans were fascinated by the intrinsic beauty and unique qualities of porcelain, silk, ivory and lacquer imported from China. In the flickering candlelight of a late 18th century interior, lacquer's shiny black and gold would have been a particularly sumptuous sight. These pieces of imported lacquer furniture would also have demonstrated their owners' wealth and international connections.

Nearly all of the Chinese lacquer produced for export was made in Guangzhou (Canton). Beginning in the 1750s an imperial edict limited all foreign trade to this southern port city.

By 1800, Guangzhou was a cosmopolitan and bustling city filled with Chinese and foreign merchants as well as one of the largest and most diverse artisan communities in the world. The stunning works they created united their artistic talents with the desires and demands of their European and American clients.

This lecture focuses on the artistic and cultural history of lacquer made in China for diverse foreign markets and explores the community of artists who created it, the merchants who marketed and sold it, and the consumers who enjoyed it, providing a broad framework for better understanding these extraordinary works of art.

Blythe McCarthy, Daisy Yiyou Wang and Molly McGrath - *Recent Scientific Research on 14th – 17th Century Chinese Lacquers and Its Relevance to A Treatise of Lacquer Art (Xiushi lu)*

McCarthy – Senior Scientist, Smithsonian Freer Sackler Gallery

Wang – Curator of Chinese and East Asian Art, Peabody Essex Museum

McGrath – Research fellow, Smithsonian Institution

Recent scientific research on the Chinese lacquers of the Freer Gallery of Art and the Arthur M. Sackler Gallery will be presented and the results will be analyzed along with the new translation and study of the *Xiushi lu, A Treatise of Lacquer Art*. Attributed to a 16th century Chinese lacquer artisan, *Xiushi lu* is the only surviving pre-modern monograph on Chinese lacquers. The Freer|Sackler lacquers were studied with x-ray radiography, Py-GCMS and through documentation of layer structure. In particular, this paper examines the laboratory results in relation to the description of lacquer-making materials, techniques and procedures described in the treatise.

Michael R. Schilling, Arlen Heginbotham and Herant Khanjian - *A RADICAL ESCAPE: Improving organic materials identification using an expert system*

Schilling - Senior Scientist, Getty Conservation Institute

Heginbotham – Conservator of Decorative Arts and Sculpture, J.Paul Getty Museum

Khanjian - Assistant Scientist, Getty Conservation Institute

“Recent Advances in Characterizing Asian Lacquer” (RADICAL) is a five-day workshop organized by the Getty Conservation Institute that provides an opportunity for scientists and conservators to identify artists' materials in Asian lacquered objects. One session demonstrates how blue light microscopy and histochemical stains aid in spatially-resolved

characterization of broad classes of organic materials in lacquer layers of a cross section sample from a lacquered object that was brought to the workshop by the conservator. A second session deals with a micro-excavation technique that permits sampling of individual layers in a flake from the same lacquered object. The third session involves analysis of the micro-excavated layer samples using pyrolysis-gas chromatography/mass spectrometry with tetramethylammonium hydroxide derivatization (THM-Py-GC/MS). The main challenges facing scientists who use this technique are analyzing the data to identify compounds in the GC/MS results and assigning certain compounds to specific artists' materials present in the sample. ESCAPE (Expert System for Characterization using AMDIS Plus Excel) was developed in the Getty's lacquer research project to systematize these processes and standardize the presentation of results. Compound identification is performed by AMDIS (Automated Mass spectral Deconvolution and Identification System), a freeware program developed by the National Institute of Standards and Technology, against a user library of nearly 600 compounds identified in lacquers. Material identification is done with a custom Excel workbook that processes the AMDIS compound report and sorts the compounds by material type. Published and unpublished information from experts in organic analysis, embedded in the workbook, aids workshop participants in confirming the presence of artists' materials in their lacquer samples. By expanding the breadth of the compound library and base of expert knowledge beyond lacquers, ESCAPE may be considered a novel, general-purpose system for semi-automated GC/MS data interpretation.

Maria João Petisca - Winterthur Museum Chinese export lacquer project – Development and conservation treatments

Project Conservator, Winterthur Museum; PhD candidate, Preservation Studies, University of Delaware

In July 2011, Winterthur Museum's conservation staff initiated the survey of a group of thirty-three black and gold lacquer pieces of furniture and objects to prioritize their conservation needs. In 2014 a two-year research project funded by an Institute of Museum and Library Services (IMLS) grant allowed for the treatment of six pieces as well as for their analytical study. This presentation will discuss the development of the project for the study and treatment of the Chinese export lacquer collection at Winterthur. The different phases of the project will be covered including the survey that defined conservation priorities, staff training, funding for the project, analytical sampling campaigns, and some selected conservation treatments. The treatment presentations will focus on three objects with different conservation needs: a nesting table requiring minor intervention; a circular tilt-top table with structural damage associated with surface deterioration; and a dressing-table with severe color alteration caused by the degradation of coatings applied in previous treatments.

Catherine Matsen - Summary of analytical results of specific Winterthur Museum, Peabody Essex Museum and Philadelphia Museum of Art Chinese export lacquer pieces
Associate Scientist, Winterthur Museum

The technical and analytical study of Chinese export lacquer wares from the collections of Winterthur Museum, the Peabody Essex Museum and Philadelphia Museum of Art has significantly added to the understanding of the organic and inorganic materials used to create the ground, lacquer and decorative layers of these objects. The results of nine objects analyzed with cross-section microscopy, SEM-EDS, XRD and THM-Py-GC/MS as part of

Winterthur's current IMLS-funded project will be presented; the objects include two shawl boxes, two screens, two dressing tables, and three circular tilt-top tables. Most significantly, THM-Py-GC/MS results corroborate recently published findings of other Chinese export wares: in some pieces the lacquer layers contain laccol as the only lacquer source whereas for others the bottom lacquer layer contains laccol and the top lacquer layer contains the more expensive urushi. Further research will help to understand the reason for the choices of different lacquer formulations.

Silvia Miklin-Kniefacz - *Chinese Lacquer on the Wall: Deterioration and Treatment Options*

Independent Conservator, Vienna, Austria

During the 18th century it was fashionable in European noble houses to furnish at least one room in the Asian style, using wall paper, porcelain and lacquer panels from China and Japan. Three examples from Vienna, Austria, will be presented in this lecture: the lacquer room at the Palais Esterhazy and the Vieux-laque-room as well as the two Chinese Cabinets at the palace of Schönbrunn.

For lacquer rooms, panels of Chinese lacquer screens were split, cut and mounted on the wall using a variety of methods that often compromised the lacquer. Other damage like the lifting of lacquer layers from the ground have to be seen in causal relationship to the original technique and materials used in export lacquer. The panels' use as a wall covering, poor environmental conditions, light damage, secondary varnishes and over paintings, and mechanical damages like abrasion and scratches caused additional deterioration. In addition, Chinese lacquer panels with slightly raised gold decoration are vulnerable to the lifting of red lacquer parts with embedded gold powder decoration.

Considering long term care, control of light and climate conditions have top priority. The treatment of such panels depends on the damage symptoms: cleaning methods vary according to the constitution of the surface and if varnishes can be removed without damage; the choice of a consolidation medium for lifted lacquer layers depends on the quality of the ground layer and the thickness of the lacquer layer as well as on the sensibility of the surface to solvents and water. The possibilities and limitations for the use of traditional Asian methods and materials for the conservation are discussed.

Marianne Webb - *The reproduction of Chinese export lacquer samples for research*

Webb Conservation services, Toronto, Canada

Recent studies of Chinese export lacquer using pyrolysis-gas chromatography/mass spectrometry and derivation with tetramethylammonium hydroxide (THM-Py-GC/MS) demonstrated that the formulas used were quite different from those based on urushi. Chinese export lacquer was often created with the use of laccol with large portions of perilla oil and cedar oil added. To study the behavior and aging characteristic of these objects one has to use formulas based on this new research. However, taking the results of analytical work and turning it into a recipe take some educated guess work and experimentation. The working properties of the laccol are quite different from urushi. It is viscous and behaves as a dilatant fluid. The addition of perilla oil and cedar oil improves the working properties. Re-creation

of the ground layers is equally challenging. Materials found in the ground layer include protein in the form of hide glue or blood, drying oils and starch.

Taking the time to make different lacquer formulations, and then artificially age them was well worth the effort. The physical characteristics and aging behavior studied thus far does depend on the original formulation. Often conservators use observations of a lacquer surface to indicate the level of degradation, however, this study found that pH of the water soluble degradation products, the gloss, the auto-fluorescence and the micro-cracking patterns, all vary according to the original ingredients.

Winterthur Staff leading/assisting with furniture/object studies and conservation demonstrations:

Mark Anderson – Senior Conservator, Furniture

Dr. Stephanie Auffret – Associate Conservator, Furniture

Emily Brown – Project Conservator, Penn Museum, WUDPAC 2015

Lauren Fair – Assistant Conservator, Objects

Josh W. Lane – Lois F. and Henry S. McNeil Curator of Furniture

Dr. Jennifer Mass – Senior Scientist

Elizabeth Peirce – Kress Conservation Fellow

Dr. Christian Petersen – Volunteer scientist

Lois Olcott Price – Charles F. Hummel Director of Conservation, Project director

Michael Szelewski – Volunteer Scientist