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Article: Chinoiserie/Chinese Export: A Comparison of Conditions and Treatments of Two Wallcoverings in Comparable Oceanside Environments

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## Chinoiserie/Chinese Export: A Comparison of Conditions and Treatments of Two Wallcoverings in Comparable Oceanside Environments

### INTRODUCTION

The Jeremiah Lee Mansion is a wooden structure, constructed ca.1768 by a prosperous merchant in Marblehead, Massachusetts. It is best known for the hand-painted grisaille wall paintings produced in England and attributed to William Squire that were mounted at the time of construction in the prestigious public and private halls and rooms. It also had a variety of relief-printed English wallpapers, including one that survived from the date of construction, a considerably more modest Chinoiserie pattern in the third floor hallway covering 310 sq. ft. (fig. 1). Following Lee's death during the American revolution, the mansion served several residential and commercial purposes until the building was purchased for preservation in 1909 by what is now the Marblehead Historic Society.<sup>1</sup>

Rough Point is an 1891 masonry structure by Peabody & Stearns built for Frederick Vanderbilt on a promontory in Newport, Rhode Island. After its purchase in 1922 by James Duke, it was modified to include a two-story ballroom addition. Two different sets of ca.1780 Chinese export wall paintings that are sympathetic in design and scale were purchased at auction in 1958/1959 and mounted as framed sections around the room, covering 1000 sq. ft. (fig. 2). Rough Point became the summer home of the heiress Doris Duke, preservation philanthropist and founder in 1969 of the Newport Restoration Foundation.

In both cases, the building envelopes were well maintained, but the nature of their constructions, however different in primary materials and level of technology, did not include systems that could do more than mitigate the extremes of their interior environments. It was also clear that exposure to four seasons in their oceanside locations meant that they were particularly susceptible to the failure of building systems when they did occur. These include water penetration through the walls, rising damp, and compromises

in the building envelope, especially during extreme weather conditions.

### COMPARISON OF SCOPE AND PARTICULARS OF TREATMENT

For the wallcoverings to be insulated from these conditions by remounting and for their supports and media to be stabilized, overall removal for studio treatment was the only viable strategy (fig. 3). However, because of their different paper supports, media application, mounting formats, degree of individually identified compromises in condition and appearance, and history of care, the overall treatment designs differed appreciably in their complexity and priority of treatment objectives. Therefore, the degree of intervention and the procedures and materials used were appreciably different. These differences can be highlighted by introducing the relatively more straightforward project first.

#### *Marblehead English Chinoiserie wallpaper*

However much the design of the Marblehead Chinoiserie wallpaper may have been a response to the taste for genuine Chinese decorative arts, it is a thoroughly 18th century example of a Western pattern wallpaper. The 21 1/4 in. wide rolls were assembled from overlapping sheets of heavyweight English laid paper, coated with an opaque aqueous medium ground layer on which the design with a 45 in. vertical repeat was block printed in a limited palette of lean aqueous media. The rolls were mounted with overlapping vertical seams directly to plaster without benefit of a lining of paper or fabric, for the most part on interior walls.

With the exception of several cracks, the plaster walls were sound with a granular final coat typical of the period. The paper exhibited planar distortions and widespread separation from the walls, marked fragility and numerous tears. There was overall discoloration from exposure, local areas of staining, tidemarks, and water damage. There were also localized areas of discoloration from the use of copper-based Blue Verditer pigment. The loss of media from cleavage and

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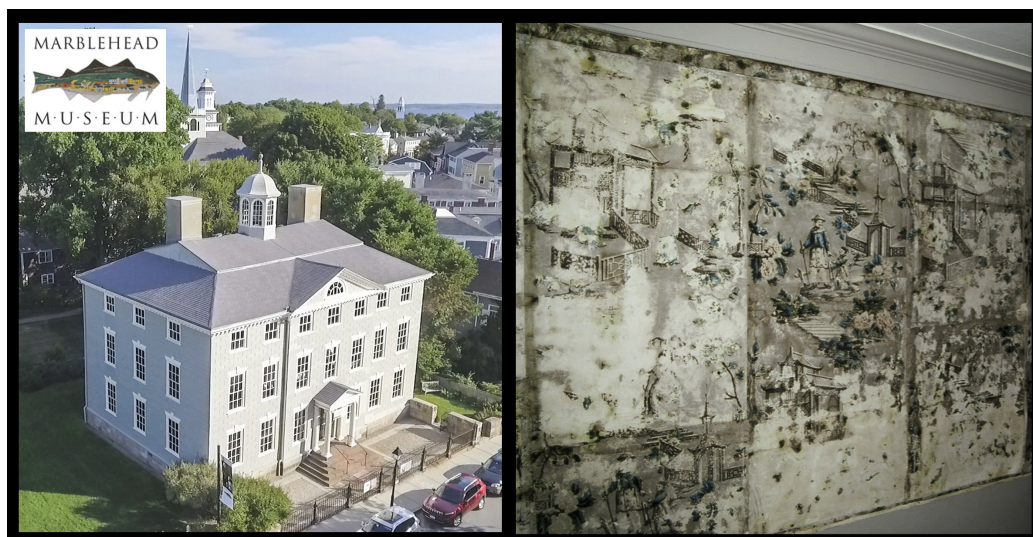


Fig. 1. Ca. 1765 Jeremiah Lee Mansion, photo courtesy of the Marblehead Museum, and English Chinoiserie Wallpaper, photo Studio TKM.



Fig. 2. Ca. 1891/1922 Rough Point, photo courtesy of the Newport Restoration Foundation, and Ballroom with c. 1780 Chinese export wallpaintings, photo Studio TKM.



Fig. 3. Marblehead Chinoiserie and Newport Chinese export wallcoverings, photos Studio TKM.



abrasion was extreme, with the commonly seen phenomenon of media having survived better at overlapping seams where expansion and contraction are more constrained due to the additional thickness.

The wallpaper had been minimally cared for over its history, primarily through mending by readhesion directly to the plaster or by patching areas of loss with pieces cannibalized from locations where large sections of the wallpaper were removed. This includes the entire area below the current chair rail where the pentimenti of the original seams are visible. The wallpaper now survives in only one stretch of hallway, with furniture and framed portraits against the walls. Despite this catalog of damages, the wallpaper retains great integrity as it is mounted to the original plaster, complete areas of design can be located despite widespread loss, and the character of the materials and technology used for its production remain apparent. Finally, it has been spared from the application of overpaint.

#### *Newport Chinese export wall paintings*

In contrast, the lengths of Chinese export wall painting are laminates made up of three layers of bast fiber papers up to 44 in. wide, joined with narrow overlapping seams. The designs were informed by preliminary outlines on the reverse and painted with aqueous media in varying degrees of opacity over a uniform background of malachite. While these wall paintings are typical of Chinese works in their material execution and sense of design, as export works they were destined for Western interiors and the mounting format was a decidedly Western effort.

Unlike examples in other European and American venues, the wall paintings were not mounted using the well worked out systems of overall adhesion to fabric stretched over battens or adhered against plaster walls. Instead, up to three rolls measuring 135 in. in height and up to 126 in. wide were assembled as coherent compositions onto Masonite panels for display as sections surrounded by moldings, almost all of them against exterior walls. Records of their condition at the date of purchase are incomplete. Available sets of historic Chinese export wall paintings in the mid-20th century generally came from other locations, and the nature and extent of damage reflect this removal and relocation (this set was removed from ca.1791 Clyne Castle in Swansea Wales). Unfortunately, there was a long history of poor decision making associated with this mounting format and later campaigns of repair. Photos that survive reveal damage along the seams as far back as 1960 and color photos from 1983 clearly show the damage that necessitated the treatment described in this article.

The Masonite panels were joined with an awkward system of chamfered overlaps secured with adhesive, rivets, and reinforcing tape on the back. These were hung from screws set into the plaster and captured at the edges by moldings. The Masonite panels were prepared with a poor quality Western

paper to which the painting sections were mounted overall using shellac and protein adhesives. The separation of the Masonite at overlaps and the failure of the adhesives generated large jagged tears in the wall paintings, as well as widespread areas of local separation from the panels. Interlayer separation of the original laminate structure and associated losses in the top layer of paper were also widespread. There was overall discoloration from exposure, contact with the poor quality Western lining paper and adhesives, and repair materials. The background malachite exhibited widespread loss. Earlier repairs were especially intrusive, including extensive poor quality overpainting as well as a thin application of a resin coating that was presumed to function as a consolidant or to uniformly saturate the design. To date, this project has been executed in two phases to address the three largest and most compromised assemblies, with the completion of the second phase awaiting repair of the building envelope.

#### TREATMENTS

Returning to the Marblehead Chinoiserie wallpaper, its treatment largely focused on consolidation of the surviving media, reinforcement by lining with handmade Japanese papers, and overall remounting using a traditional Western wall preparation of multiple layers of fabric with heavier machine-made Japanese paper to insulate the wallpapers and facilitate removal.

In comparison, the wall paintings in Newport are more of a distinguishing feature in the decorative scheme of a much larger and more formal public room. The authenticity of appearance was markedly compromised; therefore, the project objectives were more expansive, with a more complex treatment design. These included removal of the original support from the Masonite panels and linings, readhesion of the separated laminations of paper, and a new panel system for remounting. The most to-be-determined challenge was how and to what extent the design could be reintegrated in light of the background loss and overpaint.

In summary, the treatment of the Chinoiserie wallpaper and Chinese export wall paintings represent two extremes of overall conservation treatment. The different original supports and application of design media, mounting surfaces and formats, and degree of compromise necessitated different treatment objectives, using different technical procedures and materials, directed at what should always be individually tailored treatment designs. These differences become clear with a side by side comparison at similar stages of treatment.

#### *Structural treatment comparisons*

Since it was so poorly adhered already, the Marblehead paper was straightforward to separate at the seams and remove as rolls using steam, and laid out to dry before transport to the studio in cardboard folders with newsprint interleaves

(fig. 4). In comparison, the overlapping Masonite panels from Newport were separated by reaching behind the large tears in the wall paintings caused by the separated overlaps and prying away or cutting the rivets and screws. The individual panels could then be lifted from the walls.

Unlike the Marblehead wallpapers, the Newport wall paintings needed considerable attention prior to their removal from the panels. After surface cleaning with fire recovery sponges, consolidation of some media with multiple applications of gelatin depending on their sensitivity, local separations were readhered using starch paste. To take advantage of the surface resistance afforded by the still rigid assembly, the overall resinous glaze was reduced as possible, primarily with acetone, and overpaint was reduced or removed as possible with solvents and moisture.

To protect and support the Newport wall painting sections during removal from the panels,  $8 \times 10$  in. pieces of overlapping thin rayon paper were brushed on with water without adhesive. This first facing of small sheets of thin rayon paper conformed to and protected the fragile surface while also saturating the original support and linings. Steam introduced both through the facings, and from underneath once separation began, assisted as necessary (fig. 5). Following separation from the panel and additional reinforcement of the surface with a single large sheet each of heavier weight rayon and Mylar, the large sections were safely turned over for removal of the heavyweight western lining paper. The three layers of bast fiber paper were distinguished from each other by their relative quality, color, and weight. It was removal of the thicker, more coarse third layer of bast fiber lining paper that would make possible the readhesion and reinforcement of the original support by lining. In addition to reinforcing and protecting the surface during the backing removal and linings, the facing functions as an important element of the cleaning process by wicking away the solubilized discoloration.



Fig. 4. Removal of Marblehead Chinoiserie and Newport Chinese export wallcoverings, photos Studio TKM.

Washing of relief printed wallpapers is often possible using a system wherein the wallpaper rolls rest for a limited time on a slanted bed of blotters saturated with water from underneath. However, tests on the Marblehead wallpaper indicated that this degree of saturation would result in some blanching of the media. It was speculated by Susan Buck, who did the pigment analysis, that this could have arisen from solubilizing calcium carbonate that migrated from the plaster walls over two centuries of exposure. Instead, the Marblehead wallpapers were washed on a suction table using a water and alcohol mixture that was sufficient to allow consolidation with gelatin and subsequent lining.

Paper conservators understand well that exposure to moisture, however brief or extensive, contributes to the improvement in condition of the paper in addition to the

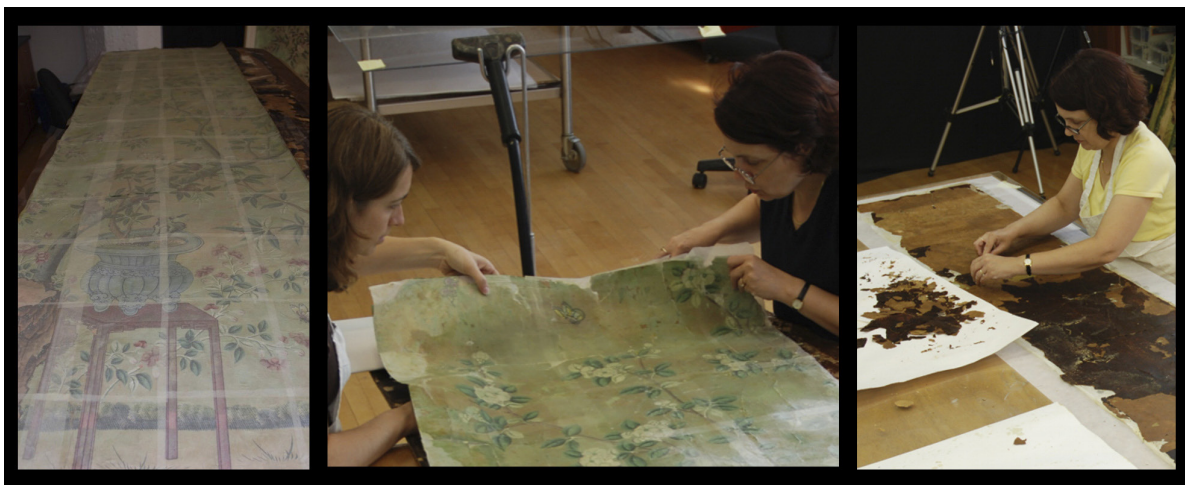


Fig. 5. Newport facing, removal from Masonite, removal of mounting remnants, photos Studio TKM.



Fig. 6. Stretch flattening Marblehead and Newport wallcoverings, photos Studio TKM.

reduction of general discoloration and tidemarks. Important additional benefits for the Marblehead paper were facilitating consolidation of the media and mitigating the potential for generating tidemarks that can occur during lining with an aqueous adhesive which can function as a surfactant. The critical benefit for the Newport wall paintings was reintegration of the original laminate structure using dilute wheat starch paste in combination with the stiff brushwork associated with lining. The Marblehead papers were left for the gelatin consolidant to dry before local mending and lining with two layers of handmade *kozo* paper (Paper Nao K36) using wheat starch paste, which served to fill the background losses. The Newport papers had losses reinforced from the back first with the lining, then with shaped patches followed by a third lining of heavier weight machine made *kozo* paper (Paper Nao RK9).

Both wallpapers and wall paintings were similarly flattened by humidification and stretch drying on sheets of 0.5 in. thick honeycomb board (fig. 6). These are a good alternative to the traditional *karibari*<sup>2</sup> when it is preferable to have the board bend somewhat to avoid over tensioning the object while drying and for projects where many panels are necessary. A large, even, unobstructed, and clean floor can also be used for lining and flattening oversize works.

#### *Design compensation and remounting comparisons*

The particulars of the Marblehead and Newport projects diverged again due to the individual strategies for design compensation and the remounting formats. It was agreed with the client that the Marblehead paper would remain

archeological in appearance and therefore retouching was only carried out at a few tear edges and on the lining where visible under losses. The walls were prepared months beforehand with layers of pre-washed and shrunk cotton and heavyweight machine made Japanese paper (Paper Nao RK29), followed by sizing with wheat starch paste. During the actual remounting, it is critical to first hang the rolls dry to identify where edges should fall and, especially with pattern papers, to identify where each numbered roll should be located. It's also essential to apply enough adhesive (starch paste/cellulose ether combination) with the right viscosity both to prevent oversaturation and to lubricate adjustments in position—the surface sizing mentioned above contributes to this lubrication by preventing premature absorption of the adhesive (fig. 7). Rubbing the surface through newsprint protects the surface while promoting overall contact with the wall and absorbs excess moisture or adhesive that finds its way onto the surface.

For a wallpaper with the extent of design loss found on the Marblehead Chinoiserie wallpaper the modest aims were to improve the immediate condition and long-term stability and to have the historic surfaces appear as well cared for as the surviving condition allowed.

For the Marblehead wallpaper, constraining expansion and contraction to mitigate further cleavage of the media was the rationale for mounting overall to a rigid surface. On the other hand, for many Asian paintings that are thinner assemblies, it is preferable to accommodate seasonal expansion and contraction while providing overall support. The use of aluminum honeycomb panels covered on one side





Fig.7. Marblehead remounting, photos Studio TKM.

with matboard and the system of paper layers found on the Japanese screen surface<sup>3</sup> (*shitabari*) was identified early in the process as the preferred mounting format for the Newport wall paintings. The surface of the Japanese panel structure performs that function exceptionally well, in addition to providing ease of future removal of the paintings due to the *ukekake* release layer. A critical feature of the aluminum panels vs. the traditional lattice structure was their impermeability and isolation of the paintings from the exterior walls. The client also wanted a system that was easily removed in the event of an emergency. However, single honeycomb panels for sections three rolls wide ( $135 \times 126$  in.) would not fit through the doors to the ballroom so it was necessary to join separate panels that mirror in width the original seam locations of the wall paintings. Two procedures are particularly useful in mounting works this large. First, instead of marking where the corners of the panel would fall on the back of the painting sections, registration marks are made at the center of each side of both the panel and the painting. In this way, expansion of the object during mounting will not affect alignment. Second is to place two or more slightly overlapping sheets of Mylar on the reverse of the object after pasting to facilitate positioning of such large works—after the object is precisely registered and weighted at one end, the first Mylar sheet is removed to establish contact, after which the remaining sheets of Mylar are removed and full surface contact is made using the newsprint as explained above (fig. 8). With exposure to moisture concluded, a final

round of local readhesion was undertaken prior to final inpainting.

In addition to their original material fabrication, scale, history of relocation, and subsequent damage, the Newport Chinese export wall paintings were distinguished from the Marblehead wallpaper by the irreversible remnants of overpainting. Some of this consisted of aqueous media but most was an insoluble opaque media thought to be acrylics. It was concentrated at tears, roll edges, and panel seams, and in the background of one of the two sets more than the other. The panels were reviewed by the client at this stage to have a full understanding of the technical, esthetic, and ethical options to address these conditions, as well as the extent of resources needed. Their involvement was essential for the credibility of the decision-making process. After reducing the overpaint as much as possible with solvents and moisture locally and repeatedly, areas of the most resilient acrylic overpaint were further reduced by abrasion to provide a suitable base for design compensation. In summary, in addition to the more routine inpainting at the many tears and losses, the overpaint remnants were overpainted themselves and the most disturbing areas of background loss were glazed using transparent and opaque watercolors, dry pigments, and pastels (fig. 9).

With the assistance of the Newport Restoration Foundation staff, reinstallation was straightforward when preceded by understanding what the choreography would be of lifting and joining the panels. The lower edge of the panel and the bottom molding on which they rested were both waxed. After



Fig. 8. Newport mounting section on panel, photos Studio TKM.

placement of the first, the neighboring panels were slid in place, aligned at the seams using horizontal dowels, secured to each other with small latches at the top and bottom edge of each panel, and then finally secured by the reinstallation of the moldings (fig. 10).

Clearly, the extent of overpaint removal and design compensation undertaken on the Newport wall paintings could be characterized as restoration in comparison to the conservation of the Marblehead wallpaper. That said, it is presented

as a legitimate treatment design for an exceptionally damaged work. A variety of technical and esthetic options were proposed, a well-informed curatorial staff identified their preferences, the processes are largely reversible, and they were executed by experienced conservators familiar with the esthetics of Chinese export wall paintings. Design compensation made up 35% of the overall treatment time of 1700 hrs., for a project with a surface area of 270 sq. ft. (Phase 1). This amounted to 2.25 hrs. per sq. ft.—not extraordinary in comparison to projects for other works in comparable condition but, of course, still considerable because of the large surface area.

#### SUMMARY

In summary, what merits a presentation comparing these two projects? A priori, an in situ project using predominantly local treatment procedures should be the first option evaluated. However, it should also be understood that local treatment can be inadequate or a poor use of resources to address major compromises in comparison to overall removal, studio treatment, and remounting—especially when a previous treatment is outside the norms of practice as seen on the Newport wall paintings. Could these treatment designs have been flipped, with the Marblehead Chinoiserie wallpaper similarly reinforced by lining in the Asian fashion, mounted on panels in the Japanese style, and inpainted to complete the extensive loss of design? Could exposure to moisture of



Fig. 9. Newport design loss compensation with before and after details, photos Studio TKM.





Fig. 10. Newport panels secured within moldings with detail of panel alignment hardware, photo Studio TKM.

the Newport Chinese export wall paintings have been minimized, with the wall painting adhered directly against the plaster walls and minimal appreciable attention given to the overpainting? Both alternative scenarios seem inopportune as best practices or use of resources, even though in other circumstances Western wallpapers have been mounted on Japanese style panels and Chinese export wall paintings have been adhered overall to plaster walls. It's worth emphasizing that both mounting systems are reversible, by the use of a fabric layer at Marblehead and the *ukekake* layer at Newport.

In conclusion, different methodologies for overall treatment have particular materials, procedures, and assemblies associated with them that have merit based on their historic evolution. This comparison of projects illustrates that individual elements of these traditions can be imaginatively recombined to address the specifics and objectives of a project.

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#### NOTES

1. For discussion of the William Squire hand-painted grisaille landscape paper and contemporary pattern wallpapers in the Lee Mansion, see Catherine Lynn, *Wallpaper in America from the Seventeenth Century to World War I*, (New York: Norton, 1980), pp. 54–56, 75–79, and 99–106 and Judy Anderson, *Glorious Splendor: The 18th-Century Wallpapers in the Jeremiah Lee Mansion in Marblehead, Massachusetts* (Virginia Beach: Donning Co. 2011).
2. For discussions of the *karibari* structure, see Koyano, M., *Japanese Scroll Paintings: A Handbook of Mounting Techniques* (Washington, D.C.: Foundation of the American Institute for Conservation, 1979); Webber, P. and M. Huxtable, "Karibari—the Japanese drying board," *The Paper Conservator* 9 (1985): 54–60. The Institute of Paper Conservation, London 1985.
3. For discussions of the screen structure see; T.K. McClintock, "Japanese Folding Screens in a Western Collection: Notes on a Representative Treatment," *The Paper Conservator* 30 (2007), 29–45. The Institute of Paper Conservation, London 2007 (<https://www.tandfonline.com/doi/abs/10.1080/03094227.2006.9638431>).

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#### SOURCE OF MATERIALS

Photographic grade gelatin, water soluble cellulose ethers, Zin Shofu wheat starch paste TALAS, 330 Morgan Ave., Brooklyn, New York 11211 USA  
<https://www.talasonline.com>

Japanese paper  
Paper Nao  
4-37-28 Hakusan Bunkyo-ku, Tokyo, 112-0001 Japan.  
<https://www.papernao.com/>

Rayon paper  
Hiromi Paper Inc  
9469 Jefferson Blvd., Suite 117, Culver City, CA 90232  
<https://hiromipaper.com>

Japanese mounting brushes (hake)  
Kobayashi Hake Co.  
5-7-5 Fujisaki, Narashino-shi, Chiba, 275-0017 Japan

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Small Corp.  
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