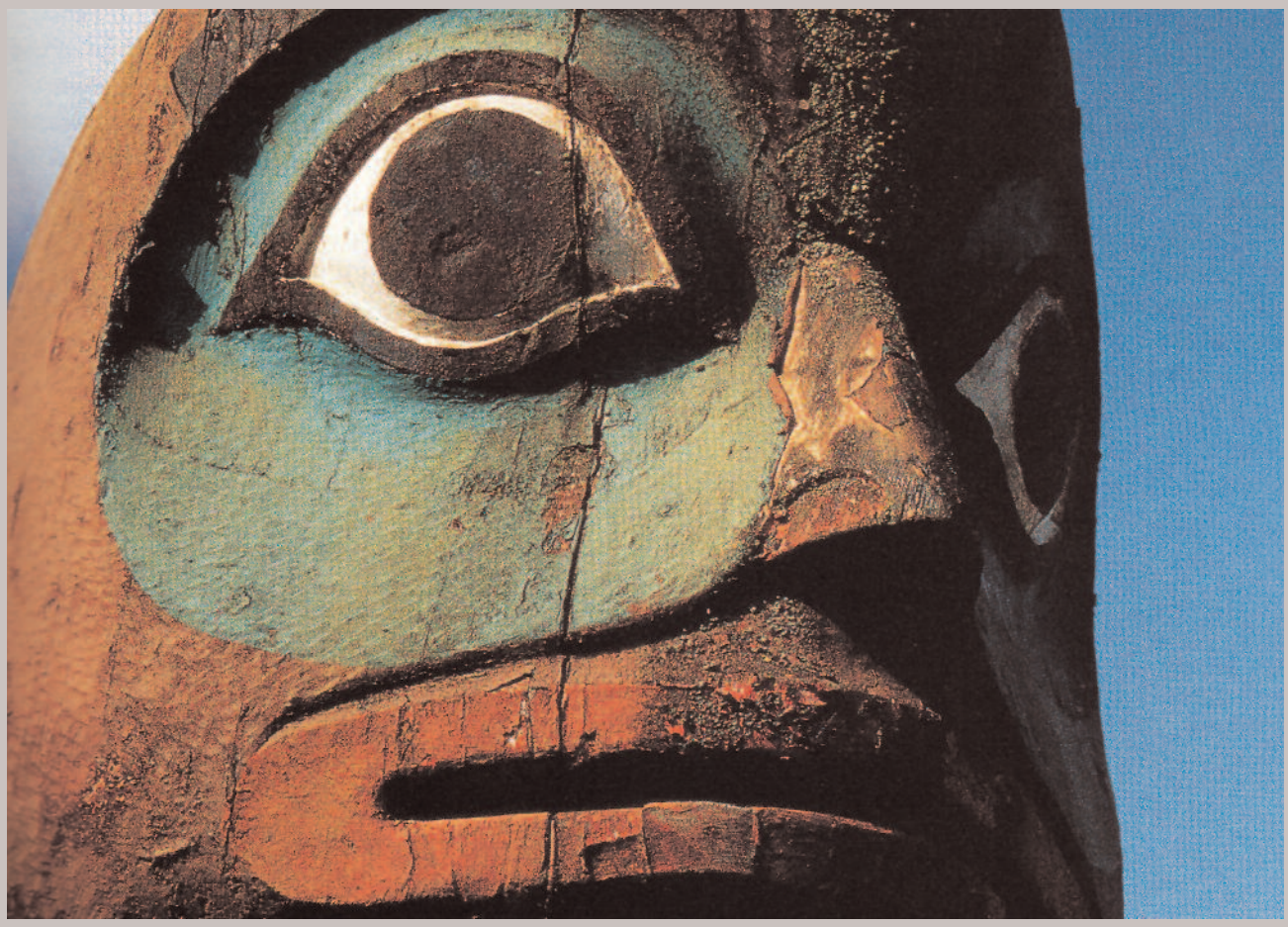
PART FIVE

Ethical Considerations



Painted Memory, Painted Totems

Andrew Todd

Totem poles of the Pacific Northwest are unique, monumental carved wooden sculptures—the most outstanding evidence of the sophisticated, dynamic people who inhabit the coastal regions from northern Washington State, through British Columbia, to southeast Alaska (Fig. 1). The carving and raising of totem poles has taken place for at least two hundred years, and possibly over five hundred. The origin of

Figure 1
Map of Northwest Coast: northern Washington State; British Columbia, Canada; and southeast Alaska.

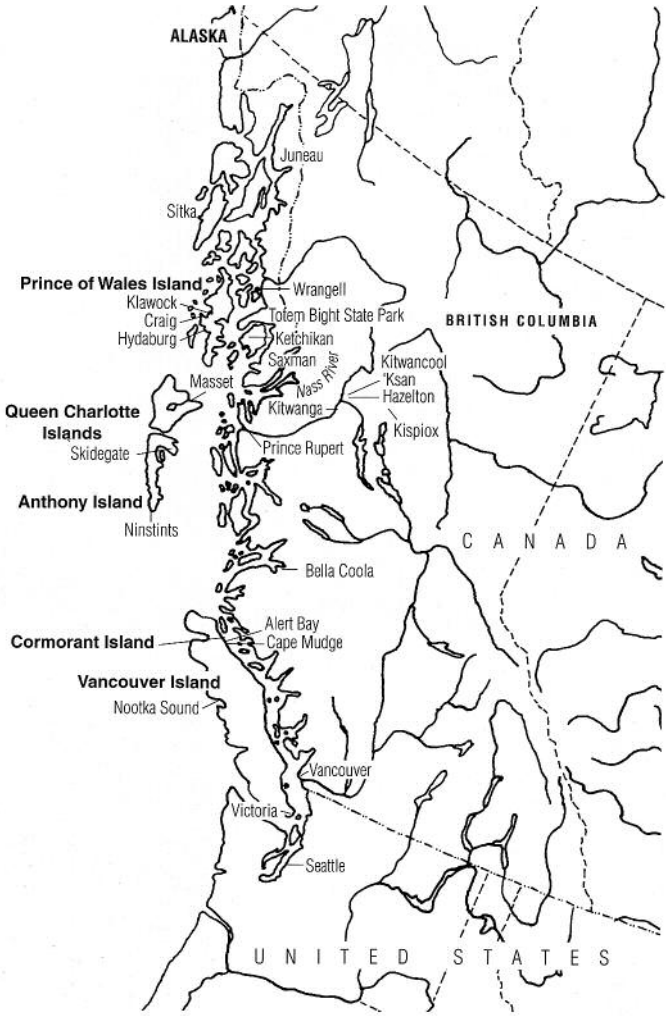


Figure 2
Detail of Raven Pole 6, Klawock, Alaska. The poor condition of paint is recorded in an examination report of 8 July 1994. This condition reflects the overall state of preservation at the Totem Park in Klawock, Alaska.

their history as wooden objects is obscure; even the rot-resistant western redcedar, commonly used for totem poles, deteriorates rapidly in the relatively warm, moist climate. However, archaeological evidence indicates that the indigenous people of the Pacific Northwest were felling and splitting trees into planks with sophisticated tools and techniques hundreds of years before the arrival of the Russian, Spanish, or British explorers.

Only a finite number of historic totem poles remains. In the village of Hydaburg on Prince of Wales Island (southeast Alaska), there is a park with twenty totem poles. They are Northern Haida, or Kaigani, poles which were collected from their original locations in abandoned, remote coastal villages and brought to Hydaburg and restored under a Works Project Administration Civilian Conservation Corps (WPA-CCC) project in the 1930s. In Klawock, farther north on Prince of Wales Island, only twenty-one Tlingit poles remain. Of these, two have fallen and broken. These poles were also collected from remote coastal villages from around Prince of Wales Island and brought to the new cannery town of Klawock. They are currently in poor condition. Figure 2 reveals flaking paint and deteriorated wood of Raven Pole 6.

In Ketchikan, there are three collections of totem poles. One collection, partly housed indoors at the Totem Heritage Center of the city's Museum Department, includes thirty-three important totem poles collected from the surrounding region. Newer poles, by artists Dempsey Bob and Nathan Jackson, stand in public sites outdoors. The Dempsey Bob totem pole in front of Ketchikan's library depicts Raven stealing the sun. The Nathan Jackson pole at the Totem Heritage Center tells the story of Fog Woman and the first salmon. The other Alaskan totem pole sites at Saxman and Totem Bight are outdoor parks. At Totem Bight (Fig. 3), a state park, there is a pole carved (1947) by Haida artist John Wallace, who was the head carver of the Civilian Conservation Corps restoration project in Hydaburg. These poles are now maintained by Alaska State Parks.

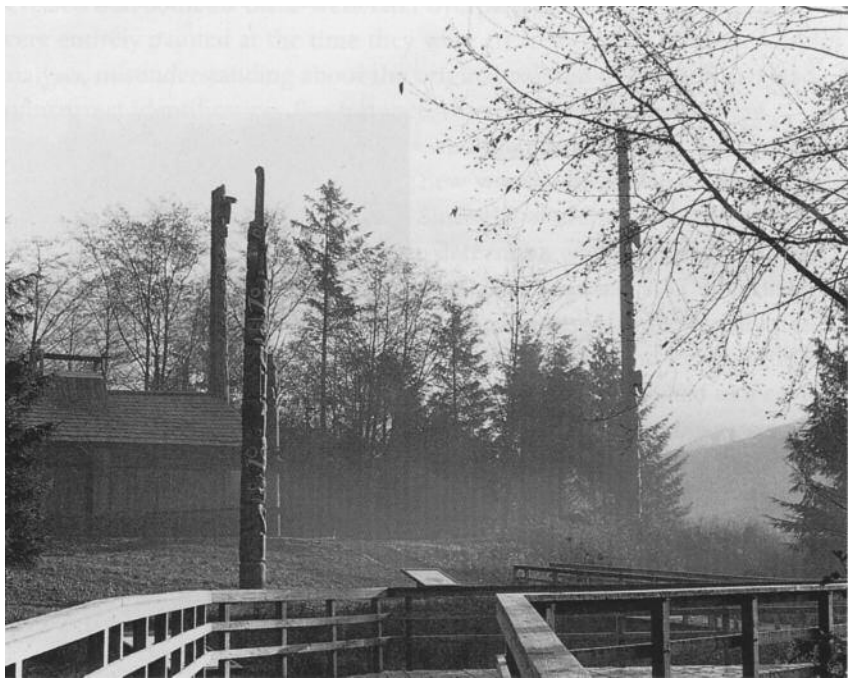


Figure 3
Totem Bight, a park managed by the Alaska State Parks, located just north of Ketchikan.

Throughout the Pacific Northwest of Canada also, only a finite number of historic poles remains, generally in very poor condition. Currently, the poles in the Alert Bay Burial Grounds on Cormorant Island (Fig. 4), are actually out-of-bounds for any form of intervention. Even the action of photographing the poles requires permission from the chief of the band.

There are significant collections at the University of British Columbia Museum of Anthropology in Vancouver and at the Royal British Columbia Museum in Victoria, and smaller collections in other communities throughout British Columbia and in the state of Washington. Totem poles have been sent as gifts to cities and nations in other parts of the world as ambassadors of the native culture, but the total number of historic poles in the world is small and, all too frequently, another one falls and disappears from the record.

Meaning and Memory

In anthropological terms, totem poles are visible proof of family lineages. They document the origins of legends or memorable adventures and declare the rights and privileges of their owners. In the linguistically diverse oral cultures of the Pacific Northwest, they served as referent memory—history carved in wood.

Memorial poles and mortuary poles are both directly concerned with memory. The memorial monument is a category of historic object that is charged with ethical issues. Gravestones, commemorative monuments, and war memorials are surrounded with issues concerning their commission, dedication, and preservation; totem poles have similar characteristics. Although they contain symbolic adaptations of spiritual figures embodied in bird, animal, and mythical figures—often with some human characteristics (Fig. 5)—they nevertheless embody the function of memory in their representations of events and stories of the past.

Contemporary poles often have new, nontraditional images that depict modern cultural issues and events, but the contemporary concepts of carvers are still based on the traditional themes and format of the his-

Figure 4
The Nimpkish Burial Grounds at Alert Bay, British Columbia. Decisions remain to be made about the preservation of the memorial poles in the cemetery.

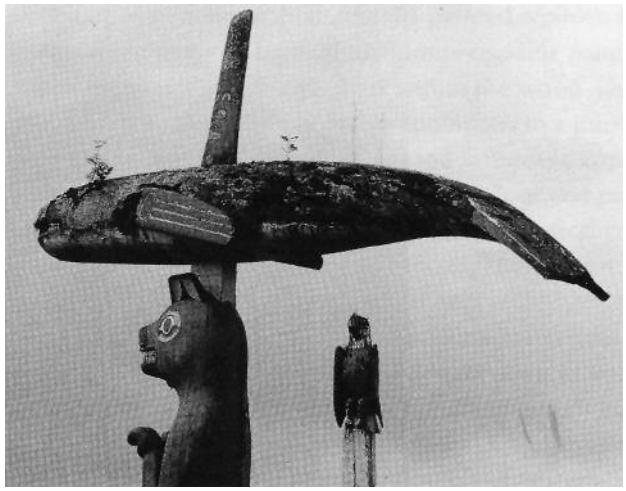


Figure 5
A reproduction Blackfish and Brown Bear pole, Klawock, Alaska. Note the paint deterioration and the plant growth on the surface.

toric poles. The contemporary poles refer back to the historical art of the past and therefore are also preserving the memory of this past artistic style, while continuing to fulfill the function of the story. The telling of a story that was completed in the past continues to evolve from its completion; the history continues to become history.

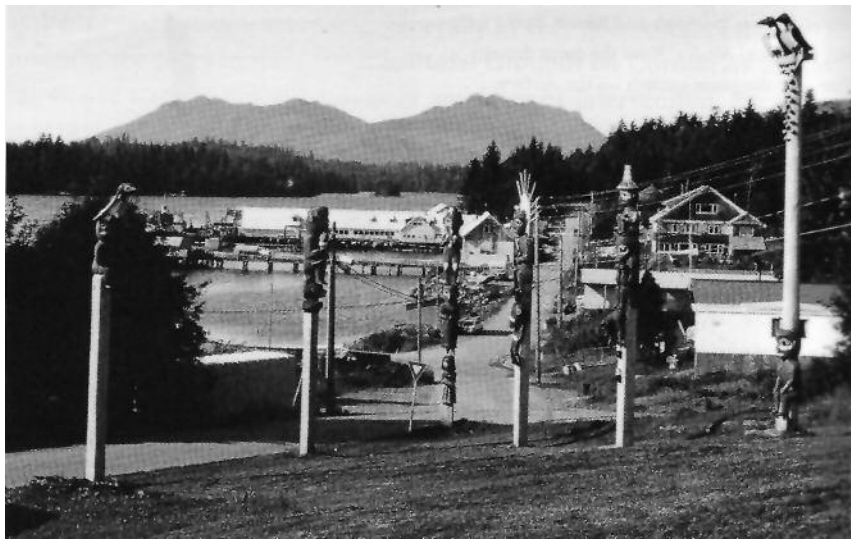
Social scientists currently are developing important new theories about memory in the area of psychological and sociological research. It is important, in a similar way, to seriously consider and study the role of conservation treatments in relation to memory and the validity of history. After all, memory is considered to be of such import because of the belief in history's value.

Painted Memory

Although it is known that some poles were not painted, many of the historical poles were at least partially painted originally. Investigations have revealed that some of these were later overpainted entirely. Other poles were entirely painted at the time they were created (Fig. 4). Without careful analysis, misunderstanding about the original painted decoration can lead to incorrect identification. For instance, totem poles in Klawock were moved there from historic village sites, and then restored (Fig. 6). The techniques of restoration included adding new wood to deteriorated areas, followed by recarving and repainting. Since the alterations were not documented, it is now extremely difficult to determine which parts of the poles might be original. It is believed that the poles at Ninstints World Heritage Site were never painted, and it is known that a group of three twenty-five-year-old K'san poles, owned by the Vancouver Museum and located out-of-doors in Vancouver, were never painted. However, paint applied to a carved motif enhances the imagery and creative meaning. A Tlingit bear pole from Tongass Island, now located in Ketchikan, reveals traces of early paint that, having never been restored, provides evidence of the effects of weathering on nineteenth-century paint. The painted surface has not been treated, other than a surface dry cleaning, carried out in 1988 by the author.

Paint has both symbolic reference and decorative purpose in telling the story of the totem pole. The meanings and associations of paint on totems are known by anthropologists and have been recorded from oral

Figure 6
The Totem Park at Klawock, Alaska.



traditions among the carvers and artists of the Pacific Northwest. Edward L. Keithahn (1945:76) reports that "totem poles were painted with a type of fish-egg tempera, consisting of a mineral pigment mixed with a mordant of fresh salmon eggs and saliva. The colors originally were red, black, and green or blue. The red was obtained from hematite, the black from graphite and carbon, and green/blue from various copper ores common in the region." Each color has a place in the history of totem pole manufacture.

The formulation and physical qualities of the paint give an indication of its age. The early paints made from earth and mineral colors, with salmon roe and saliva as binders, were used at around the same time as were organic colors from berries, bark, or blood. Examples of old paint can be found, weathered but unchanged by intervention, in museum collections worldwide. Paint was a very early trade item on the Northwest Coast. Around the end of the nineteenth century, commercial paints were introduced when industrial fish packing companies moved into the region.

The mild, wet climate of the Northwest Coast does not permit a very long lifetime for paint films. During the past ten years, technical studies have been conducted to examine and describe the components and media of paints used on objects and totem poles of the Pacific Northwest (Howatt-Krahn 1988). Conservation scientists at the Canadian Conservation Institute in Ottawa have been analyzing paint samples, and there is now extensive literature available on the properties of historic paint films, their components, and their degradation. This information is valuable for the preservation of existing paint surfaces and for understanding the technology of early paint manufactured in the Pacific Northwest.

Conservation Problems

In some areas of this coastal region, it rains two hundred days of the year. The annual rainfall accumulation can be 250 cm or more (Ketchikan's average yearly accumulation is 386 cm). Therefore, the major problem for conservation of the outdoor totem poles is deterioration at the paint-wood interface. Where the paint meets the wood, moisture becomes trapped and the processes of deterioration begin (Fig. 7). The application

Figure 7
Detail, back of fishtail on top of Sockeye Salmon Pole 11 at Klawock, Alaska. Condition recorded in 8 July 1994 examination.

of overpaint and the use of nonpermeable paint also contribute to the problem. When moisture enters the painted wooden surface of a pole and then cannot pass out through the nonpermeable paint film, the trapped moisture nourishes biological growth in the wood. Once the pole is brought indoors to the dry, stable conditions in a museum environment, degradation of the paint and the wood is reduced considerably. However, this is a compromise with the original outdoor and public purpose of the totem pole. It can also be an economic and physical compromise to properly house an old totem pole indoors, especially for museums with small collections and limited financial resources.

Once painted surfaces have deteriorated out-of-doors, efforts to return them to their original condition, or even to stabilize their condition, become very difficult. This difficulty is usually compounded by the nature of the underlying wood substrate, which is affected by the environment. Factors that affect the preservation of materials often mirror the natural process of life itself, a cause-and-effect system well understood by the indigenous society that created these works. The notion of time dictates the cause-and-effect system of any culture (Laforet 1993).

History of Totem Pole Conservation

The history of conservation treatments for totem poles in Canada begins with the efforts of the National Museums in Ottawa and the Canadian National Railway. Their restorations were conducted in the 1920s and are recorded in reports by Marius Barbeau (1990). The Royal British Columbia Museum in Victoria has gathered conservation records by anthropologists and conservators throughout the years. As first chief conservator of the museum (then the B.C. Provincial Museum), Philip Ward was responsible for several projects in the 1960s and 1970s. Richard Beauchamp, Mary Lou Florian, and Valerie Thorp, respectively, have directed conservation services from the late 1970s through to the present. In Vancouver, conservation projects have been carried out at the University of British Columbia Museum of Anthropology and at the Vancouver Museum, which is responsible for an outdoor display of totem poles in Stanley Park. In Ottawa, research and treatment projects continue to be carried out in the laboratories of Canadian Parks Service, the Canadian Conservation Institute, and the Canadian Museum of Civilization. Other projects to preserve totem poles have been conducted by many museums elsewhere in Canada and in other centers around the world.

The author's involvement with the conservation of outdoor totem poles has included treatments and recommendations for preventive measures and record keeping within maintenance programs. Treatment projects to stabilize wood and secure paint have been provided for totem poles that are now housed indoors at museums and cultural centers. Emphasis has been placed on environmentally sensitive approaches to treatment, with minimum intervention, and maintenance-and-prevention programs. An effort to incorporate the native world view into established Western theories of preservation has been practiced for several years. Maintenance treatments and recommendations for storage and display have been provided for several collections in the Pacific Northwest region. Treatments to conserve the historic poles are occasionally being accepted, but the cost of conservation programs and appropriate housing for the old totem poles is still a limiting factor. Now, at least, some understanding of

the concepts of native culture in relation to preservation is being more widely appreciated.

Conservation treatments have included consolidation of the wood structure and of paint films on totem poles at the Totem Heritage Center in Ketchikan. Conservation of a painted housefront in Sitka, Alaska, for the National Park Service demonstrates the stages of a paint consolidation treatment. First, stabilization of the wooden substrate is done using dowels and consolidants, following a gentle, dry cleaning. The soft wood in deteriorated areas is then injected with poly(vinyl butyral) Butvar B-90 in ethanol. Finally, the paint is consolidated to the wood surface with Acryloid B72 in acetone, applied first with brush and then as a fine mist spray.[1]

The same methods have been used for other objects, such as the Tlingit carved bear on the top of a plain round pole from Tongass Island, now in the Ketchikan Totem Heritage Center. This type of treatment, involving the injection of poly(vinyl butyral), can be conducted only on the dry wood and paint of an object that has been moved to a sheltered indoor environment. Polyvinyl butyral will not function as a consolidant in wet wood. Poly(ethylene glycol) (PEG), however, has been used successfully to structurally stabilize wet wood.[2]

Native elders, through hereditary rights, are responsible for decisions regarding the disposition of totem poles. In some cases, they have expressed a wish to be able to witness the gradual and natural decline of the wood and paint in their original placement. An example is the Haida decision regarding the mortuary and memorial poles still located on-site at the Ninstints World Heritage Site on Anthony Island, in the Queen Charlotte Islands. This site is one of the few remaining original villages where poles were traditionally erected. An ongoing program to manage the site is conducted through the Haida Watchman program, in partnership with Canadian Parks Service and the Skidegate Band. The program honors the native point of view, permitting the poles to slowly deteriorate. The site is maintained by the Haida Gwaii Watchman, a native resident who is appointed to supervise the site and keep the poles free of extraneous biological growth.

When representation of a story is the most important aspect to preserve in a totem pole, the option of total restoration results. This operation may include the removal of all deteriorated wood, or as much as necessary, replacing it with new wood, which is then carved to match the original. The result, in terms of materials, is an assemblage of old and new wood, adhesive, and fasteners. With this kind of treatment, the visual representation of the story or theme of the pole is preserved; but, is this not extremely excessive intervention? Such intervention can be justified through the need for public safety in exhibition locations. If the object tells a story, then the imagery of the surface must be preserved to faithfully tell it.

An alternative method of preserving the story of the totem is recarving or reproducing the pole. Elders of a tribe may decide to permit a new pole to be carved to replace one that is no longer safe to leave standing. The Raven and Black Fish pole in Klawock is an example of a recarved pole. Artist Israel Shotridge was selected through hereditary rights to reproduce the pole. His reproduction is an accurate replica of the original, except for a slight addition carved on the fin of the Black Fish. The addition is a portrait of his young daughter. In another case—the Chief

Johnson pole of Ketchikan, which Israel also reproduced—the new pole replaced the original at the outdoor site. The old pole was placed in storage. The status of the old pole now becomes questionable in terms of significance. Is it still an original artifact that should be preserved, or is it like a "de-accessioned" item, removed from the culture? The Chief Johnson pole, partly because of its length (nearly 18.29 m [60 ft.]) and partly because of its ambiguous identity, is now stored under a leaking deck, open on three sides to Alaska's weather.

Another issue that affects the role of conservation is the question of authenticity that surrounds poles that have been restored in situ by recarving new wood installed on the original pole. Such restorations were carried out in the past, and no written records of these earlier treatments were kept; rarely were approvals of treatment proposals given and/or descriptions of the before-treatment conditions made. As a result, details of the treatment, including exact dates, often are not recorded. When artifacts that carry questions about their treatment or original materials are placed in the same collection with documented ones, the latter often receive better attention. The preservation principle of universal care for objects in a collection is then changed to a hierarchy of care that favors the most authentic.

The Haida position for the Ninstints World Heritage Site is very important to bear in mind with regard to present and future criticism of conservation theory and practice in the preservation of totem poles. In Haida philosophy, the concept of time passing acknowledges and honors the process of life and death and gives regard to the artists and the society of the past. The practice of preserving surface features does not acknowledge the past represented by the whole totem pole; rather, it rebuilds the artifact in the present as a new object. By denying history evident through aging, the impression that is created through the practice of surface rebuilding—when compared to the Haida practice of overall preservation of the old poles and their environment at Ninstints—is not of time passing or of the past, but only of a newly built present.

Although the very old poles remain untreated at Ninstints, their story continues, giving new meaning to the present. The choice of nonintervention at Ninstints is as significant to the history of those poles and that community as intervening with new, structurally stabilizing adhesive and wood. These two choices—to intervene with treatment or to provide treatment that does not actually disturb the artifact—occupy opposite ends of the theoretical approach to totem pole conservation.

Conservation Ethics in Conflict

The ownership of memory—and the right to tell one's own story, to change it, even to let the story die—is embodied in the symbolism of totem poles. At the same time, the poles are material objects subject to the ravages of time and, within conservation standards, not only worthy of preservation as sculptures within the context of world art history but also important as cultural and artistic resources for future generations of native and nonnative people. This is the intersection where *memory-stories* contained in the totems coincide and conflict with increasingly urgent and complex choices about preserving the original wood and paint.

Preservation is about memory, just as the stories told by many totem poles represent memory. Traditional conservation places emphasis

on the actual materials of the object for preservation purposes—the totem pole as a distinct object of carved wood and paint—whereas in native culture, preservation of the totem pole is an act of remembering.

Who can decide how a story should be preserved, and who can permit a story to be changed? Don't conservators have a responsibility to intervene, to preserve?

Conservation ethics have been carefully established to define the moral and ethical responsibilities of the conservator in the practice of preserving works of art. A written set of guidelines for correct practice has governed the performance of treatments since the early 1950s (IIC 1968). These conservation guidelines define the limits of care and attention. The conservation ethic is, however, uncritical. It assumes that objects are precious and that all are equal in terms of attention for the purpose of preservation. This assumption is often unrealistic, given the hierarchy of certain objects within different cultures and societies. The profession really has not dealt with the choices that are made in the actual selection that takes place before an object is given conservation treatment. Selection for conservation treatment often determines which objects from history are memorialized.

In examples of conservation projects at the Ketchikan Totem Heritage Center, authority to conduct treatments for objects has been granted by the Alaska State Museum and elders of the family that has inherited ownership. Loose sections of carving were considered safety hazards in need of treatment. More recently, authority to treat other poles in the same collection has been granted by the State Museum in two ways: to the conservator responsible for the treatment; and, with formal blessings and songs, by tribal elders whose family lineages extend (or circle) back to the original owners. Permission of this kind is extremely meaningful to the conservators involved.

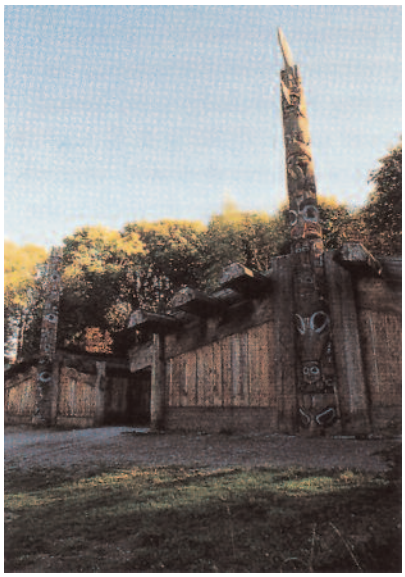


Figure 8
Totem poles outdoors at the Museum of Anthropology, University of British Columbia. These poles have been reproduced by the team of Bill Reid and Douglas Cranmer.

On the subject of totems and their preservation, Alert Bay artist Doug Cranmer (1994) recently reflected on a common concern held by contemporary native artists and tribal elders. He wonders, "Who will do the preservation work next?" The poles he re-created, along with Bill Reid, in 1960 at the Museum of Anthropology, University of British Columbia, are still outdoors (Fig. 8) and are now in need of treatment to stabilize deterioration and stop the damaging growth of mosses and plants. Biological growth has contributed to structural deterioration of the wood in several vulnerable locations. Cranmer acknowledges that although the talent to carve new poles flourishes in the region, conservation skills are only lately developing within the native community.

Aboriginal control of park and burial sites and the retained ownership of the stories and crests on poles within museums are a serious and unresolved factor in the conservation treatment of totem poles. Traditional aboriginal opinions about recorded history and the use of the carved and painted totem poles have been researched by conservators and incorporated into their discussions in an effort to acknowledge and respect the culture of the original societies that produced the work. However, the conservation profession, while attempting to honor the original culture, is still governed by the rigid Western (i.e., European) definition of cultural preservation. A different ideological world view is held by indigenous peoples of the Northwest Coast region. The flaking and lost paint that troubles conservators is not so important to a society that describes its history through a different communications system, where a totem pole is a story,

and the story is about the culture, the rank of its members, their achievements, and their memories. Their cultural viewpoint influences the way they view the European-based conservation profession.

The McLennan Infrared Technique

Surprising revelations from infrared photography have spurred another preservation technology and inspired the interest of native artists to work with the historic techniques of native art. The principle that underlies this technology is, of course, that infrared film is sensitive to heat. Pigments either absorb or reflect the heat from photographic flood lights. Dense mineral-based pigments such as hematite and magnetite absorb heat, while paints such as Chinese vermilion reflect it. Even small traces of pigment can be detected with this method, and distinctions can be made between older paints and those that became commercially available this century through trading. Unpainted wood also reflects heat. These conditions are clearly recorded on photographic film, and they can be observed and considered in relation to what is apparent in natural and raking light.

The work of Bill McLennan (1994) at the University of British Columbia Museum of Anthropology reveals new findings that add to stylistic interpretations of cultural expression. His photographs of paint-decorated objects can penetrate through use-added surface layers that are too important to remove for any examination. Beneath these heavily coated objects, he has found paint designs that have brought a new understanding of the art form.

Previous descriptions of the stylistic qualities of Northwest Coast art have depicted the painted visual form of the designs as being rigid and formalistic. In the 1920s, anthropologist Franz Boas (1929) emphasized formal equations in the art and interpreted the imagery as rule-bound compositions that had little narrative content. Later, Bill Holm further analyzed a formal vocabulary of images and gave names to the iconographic components, such as *formline, U-form,* and *ovoid,* in his 1965 book, *Northwest Coast Indian Art: An Analysis of Form.*

By contrast, these infrared photographs have disclosed a unique freedom and risk-taking in the designs. A mature confidence in the application of paint for decorated surfaces reveals the free use of the medium by artists willing to experiment and challenge rigid formalism. The very recent use of this infrared technology illustrates the issue of recovered memory and history within the world of the Pacific Northwest.

Currently, young native artists are working to re-create works from the information recovered in the infrared examinations. Vancouver anthropologist Charlotte Townsend-Gault has studied the implications of these discoveries, and she comments on the fact that more information about the culture is now available. She refers to the technique used by some museums of presenting objects as aesthetic items. Without discussing their meaning, the objects are presented complete in their form and allowed to "speak for themselves." She notes that the infrared project now defines the important role that the object plays in telling the stories of the culture. As she puts it, "these are not just objects for aesthetic delectation but the repositories of ancestral stories and the rights to those stories" (1993:51).

The issues that are unveiled by infrared examination relate to the present ethical memory role that conservation and the treatment of totem poles must address. Future ethics in this area must take into account the values of aboriginal culture and their concepts of time, nature, material

culture, and memory. Infrared technology has revealed new and important cultural information without disturbing the objects. Conservation treatment needs to remain sensitive to achieving results of similar value through equally nonintrusive means.

Conclusion

Conservation treatments for painted wooden objects have been developed to preserve the physical qualities of the original materials. In many cases, the individual painted objects present unique problems, but for the most part, standard techniques with new procedures can be adapted to achieve a satisfactory treatment. Totem poles, however, present a complex assortment of issues and problems. They are more than works of art; they embody the culture of the native peoples of the Pacific Northwest. The totem poles have several important uses in a culture that incorporates symbols and mythic images to convey the meaning of society and the memories of events and legends. Conservation treatments for these objects raise ethical issues that reveal that the practice of conservation, in fact, also deals with preservation of memory. With totem poles, the responsibility for their preservation should be permitted and approved by the people whose memory is embodied in the object.

As the Western-based conservation profession is now beginning to acknowledge the role of aboriginal peoples in the preservation of their own cultural heritage, so has the importance of the native conservator come to be realized. The result is that conservation is now developing as a profession among the members of the culture that owns the objects. Native conservators are entering the field to share their unique understanding of cultural memory and its preservation. Conservation courses have been given by the author in communities with totem poles. Perhaps the most important outcome of courses such as this has been a growing and shared awareness of the value of preservation programs for these artifacts.

In addition, young artists—such as Robert Davidson, who uses the historic works as a stylistic starting point for his personal development as a contemporary Haida artist (Thom 1994:5–7)—have spoken in favor of preservation in order to keep the objects of the past as lessons in cultural history. Therefore, the culture benefits from the preservation of the totem poles by preserving old stories, which are recarved on new totem poles.

Hopefully, developments such as McLennan's Infrared Technique will provide the inspiration to research and study further techniques to assist in the preservation of Northwest Coast native art.

Notes

1 For the use of poly(vinyl butyral) as a consolidant, see Barclay 1981 and Wang and Schniewind 1985.

2 There is a great deal published on the use of PEG as a consolidant for waterlogged wood. See, for example, Grattan 1981.

Materials and Suppliers

Acryloid B72, Conservation Materials, Ltd., 100 Standing Rock Circle, Reno, NV 89511

Butvar B-90 and B-98, Monsanto Canada, Inc., P.O. Box 787, Streetsville, Ontario, Canada, L5M 2G4.

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The Philosophy of Aesthetic Reintegration: Paintings and Painted Furniture

Wendy Hartman Samet

Aesthetic reality lies entirely in the appearance of the work of art and its understanding cannot be dissociated from the presentation of the work. . . . The minimization of disturbance [caused by losses], . . . while respecting [the object's] authenticity as a creation and as a historical document is the real critical problem of the re-integration of lost areas.

Paolo Mora, Laura Mora, and Paul Philippot
Conservation of Wall Paintings, 1984

Only rarely do works of fine or decorative art reach the conservator without some degree of damage, wear, or loss. Whether in museum, private, or university practice, conservators sooner or later turn their thoughts, time, and abilities to the object's presentation. This is not as easy a task as may first be assumed; museum goers, owners, scholars, and institutions have various—and at times conflicting—goals. The consideration of painted furniture as a discipline is fairly recent. In searching for guidelines regarding aesthetic compensation, largely a surface phenomenon, the obvious place to look is toward painting conservation. In North America and throughout most of western Europe, compensation is seen exclusively as an aesthetic issue. There is a more complex mandate in the conservation of painted utilitarian objects, however; and the analogy to painting conservation, though useful, is ultimately inadequate. Even the concerns of polychrome sculpture do not apply, as these objects were often routinely repainted. The numerous layers are considered a legitimate part of the sculpture's history, thus the palimpsest that results from losses in one layer, revealing an earlier layer, present additional issues in aesthetic reintegration that are not relevant to either paintings or painted furniture. The three-dimensional, utilitarian, and nonillusionistic components of painted furniture bring their own concerns to bear, and there is a need to look further afield for answers.

The Philosophical Argument for Inpainting

An assumption in painting conservation is that the most skilled conservator is the one who can most sensitively and skillfully restore to a work of fine art its sense of unity and aesthetic purpose without removing all traces of age or patina. Clearly, many varied skills come into play, includ-

ing, but not limited to, the knowledge of a particular artist or period, awareness of how materials may have changed, and how removing a discolored varnish may emphasize or minimize that change, the ability to select an adhesive, knowing when and when not to line, the ability to interpret a cross-sectional sample of paint, and the skill in matching a color or reproducing the merest hint of lost translucency to return a sense of form and space to a figurative work. Much of what conservators do is perhaps not readily understood by the general public, but people do understand the concept of inpainting.[1] Inpainting is the most visible and most comprehensible aspect of a conservator's work. It is curious then that while so much writing and research has gone into other phases of painting conservation, so little has been written on the subject of inpainting. It is as if inpainting were a skill that could not be acquired without divine inspiration or, paradoxically, as if retouching did not matter because it is merely on the surface and can be readily detected, changed, or removed.

Writings on the subject of inpainting that do exist are built on the legacy of Cesare Brandi, who wrote several seminal articles from the late 1940s through the 1960s. At the time of this writing, few of Brandi's texts were available in English, though his views were summarized and expanded upon in *Conservation of Wall Paintings* by Paolo Mora, Laura Mora, and Paul Philippot (1984).

Brandi worked from the notion that the aesthetic of a work of art is characterized by the unity of the form as a whole. The art (the image created by the artist) is different from that of the object (the bits of paint and wood or fabric by which it is rendered). Art, therefore, consists of something greater than the sum of its parts. Even in a mutilated or fragmented work, that potential unity of form, the totality of the art, can be found in each fragment. The purpose of reconstruction is to realize the potential formal unity of the work that exists within the fragments. Brandi maintained that losses in a painting are disturbing because they have a tendency to form a pattern for which the work of art becomes merely a ground, and, as such, they destroy its integral aesthetic unity. This idea of the integral aesthetic unity of a work of art is paramount and forms the basis on which conservation practices are based. Brandi felt that respect for the authenticity of the work means that retouching must always be visually distinguishable from the original at close range. In part, this stricture is a reaction against the excesses of repainting in the past (Mora, Mora, and Philippot 1984:302–3).

Brandi wrote that the role of the restorer is equivalent to that of translator. Thus, the taste and subjectivity of the restorer should not play a role for fear of misinterpretation. In this sense, a painting with losses can be compared to an old and complex text—one that may, by virtue of missing or illegible words and phrases, be open to several interpretations (Mora, Mora, and Philippot 1984:303):

> A comparison may be drawn with the restitution of a work in an incompletely preserved text, although in the case of a text, transmission of the word is ensured by the published edition, which is physically different from the original document. This means that the critical restitution never takes place on the manuscript itself but only on the published text, where it is indicated by a footnote. In a work of art, on the other hand, the reconstruction of the image is only possible on the original.

Figure 1
Example of inpainting using *tratteggio*. Pietro Lorenzetti, detail of throne of *Virgin and Child Enthroned* (Philadelphia Museum of Art, Johnson Collection 91).

In response to Brandi's concerns, several inpainting techniques have been developed and employed. Some involve merely toning large losses in a neutral color that will allow the lacunae to be perceived as behind the remaining pictorial surface, and other techniques are more complex in both their conception and execution. Many of these techniques vary only in seemingly minor points of philosophy and practice, and all rely on the eye to blend at a distance what is distinguishable as individual colors and brushstrokes at close range.

The technique of *tratteggio* was developed at the Istituto Centrale per il Restauro in Rome during the years 1945–50 and is based on Brandi's ideas (Fig. 1) (Mora, Mora, and Philippot 1984:307, 309):

> Reconstruction in *tratteggio* consists of reconstructing losses by transposing the modeling and drawing of a painting into a system of vertical hatchings in pure colors based on the principle of the division of tones. . . . *Tratteggio* is a system of small vertical lines averaging one centimeter in length. The first lines, which indicate the basic tone of the retouching, are placed at regular intervals equal to the width of one line. Next, these intervals are filled with a different colour, and then again with a third colour, in order to reconstitute the required tone and modeling by means of the juxtaposition and superposition of colours which are as pure as possible.

Of course, not all types of loss can be dealt with solely by means of *tratteggio*. The technique is inappropriate when the loss consists merely of wear to patina or a glaze or where the losses are so large that vibrations caused by the hatching serve to cause confusion rather than resolution of the form (Mora, Mora, and Philippot 1984:310).

The technique as developed and practiced by Umberto Baldini and Ornella Casazza in Florence is similarly based, but the colored hatchings are not limited to the vertical direction and instead follow the dynamic flow of the image (Stoner 1985).

Chromatic abstraction was also developed in Florence by Baldini and Casazza in the 1960s. Its theoretical basis was devised for the *Cimabue Crucifixion,* which had been seriously damaged in the Florence flood. They felt strongly that it was inappropriate to leave this extremely important work as a mere fragment, and yet they were unwilling to deceive the viewer into thinking that the work was undamaged. Chromatic abstraction was their answer to this dilemma. Chromatic abstraction is formulated on the idea that three dominant tones can be abstracted from any painting. These colors, combined in the losses in small strokes that follow the dynamic flow of the image, and in the correct proportions, create the neutral color that blends most perfectly with the painting, making the losses the least distracting without inpainting them imitatively. By the 1980s, with the benefit of hindsight, Casazza did not feel that the technique had been entirely successful (Stoner 1985).

In each of these approaches, the purpose is at least twofold. Obviously, each of these techniques ensures that any reconstruction can be readily differentiated from the original, in the same way as a different typeface may be used in a printed text to distinguish the translator's interpretation or conjecture about missing or illegible text. The second purpose is more complex and less realized. The writings suggest a great reliance on technique to prevent or filter, "through the mechanical nature of the system, any personal expression of the restorer in the spontaneous continuity

of the modeling, brushstroke or the line" (Mora, Mora, and Philippot 1984:309). The assumption that any technique will produce uniform, unprejudiced, and even impersonal reconstructions based solely on the objectivity imposed by the technique is well intentioned but, in this author's view, naive. Can the imposition of a rigorous, technical process such as *tratteggio* be relied on to filter out the conservator's personality more effectively than an effort by that conservator to exactly match the original surrounding paint? Even the use of such abstracted methods as developed by the Italians results in part from a twentieth-century, post-Pointillist aesthetic. Although the Moras suggest that when reconstruction of the missing areas becomes hypothetical, the loss should not be reconstructed, they reject the "radical refusal of any intervention on lost areas," stating that "aesthetic reality lies entirely in the appearance of the work of art and its understanding cannot be dissociated from the presentation of the work. . . . Moreover, non-intervention, which also affects the appearance and legibility of the image, is thus in itself a form of presentation" (Mora, Mora, and Philippot 1984:303, 310, 302). Clearly, this statement can easily be applied to whatever form or level of aesthetic reconstruction is employed.

Paul Philippot, however, in one of his essays in *Pénétrer l'art, restaurer l'oeuvre,* acknowledges that the judgment and sensitivity of the restorer are critical to a reconstruction despite any inherent problems (Philippot 1990:414).

> Critical interpretation clearly cannot be limited to a verbal judgment; it must take shape in the concrete act, the execution of the retouching, and must be realized according to the imaginary plan in which one intuitively reconstructs the form. This is where restoration is essentially a work of art requiring practical cultivation of the visual imagination. Despite its critical nature, it cannot, in the final analysis, be divided between pure intellectual decision and pure technical execution. This is where the peril, the drama of the restorer, is revealed. It is necessary that the intuitive reconstitution remains essentially critical; that is to say, it suppresses as much of the practitioner's personality as possible, something all the more difficult for a sensibility as acute as it must be for this task.

Philippot also acknowledges that lacunae alone are but one of the several types of loss a painting may suffer. He notes that depending on the nature and the style of the work, the loss of even a thin film can confuse modeling. Interruption of the craquelure or the enamel of the paint can cause as much disruption in a Dutch interior as a large gap in an architectural drawing or primitive fresco. Given the nature of the disruption, he makes the radical statement that a subtle glaze or disrupted craquelure should be replaced and that, at times, imitative inpainting is the most appropriate choice (Philippot 1990:413–414, 415).

In English-speaking countries and most of the rest of Europe, invisible inpainting, or inpainting that seeks to visually replicate losses as closely as possible, has become the normal practice, and the ability to do so has become a measure of competency or excellence. As the Italians do not want the distractions of the lacunae, others have no tolerance for the more obvious tracks of the restorer that interfere with their aesthetic experience. Rather than desiring immediate, visual assessment of what is original and what is reconstruction, we rely on "before-compensation"

photographs and ultraviolet light examination to detect inpainting and to identify excessive retouching not confined to areas of lost paint. Imitative or invisible inpainting, ethically practiced, answers the aesthetic requirements of most illusionistic paintings, but does it meet the needs of painted utilitarian objects?

Some Critical Differences between Paintings and Painted Furniture: Issues of Formal Analysis

When the literature is searched for an appropriate criterion for inpainting the various types of loss found on painted utilitarian objects, a rationale based on the problems of illusionist painting may not be entirely relevant. First, the formal differences between traditional, illusionist painting and utilitarian, three-dimensional painted decorative arts objects are profound. The two-dimensional format of a painting is part of the tension of the illusion of three dimensions, a virtual space. With painted furniture, its three-dimensional form is part of the decorative scheme rather than being at odds with it.

As with paintings, two major issues of damage to painted furniture can be addressed with retouching: wear to the surface and severe loss. Brandi's premise that lacunae become a dominant pattern, if not literally a foreground, is as true of painted furniture as it is of paintings. Therefore, with regard to wooden objects, although some might choose to leave older lacunae with oxidized wood below (because they may show age and use without being visually distracting), there are few who would choose to leave lacunae with bright grounds and hard edges untouched. Is there a logic in this? Unless lacunae on painted furniture are so massive as to subsume the object, they are not likely to cause the same kind of disruption that one experiences in a painting. No illusion is destroyed, and the three-dimensional form—as well as the decorative paint scheme—is likely very comprehensible, especially when the design is symmetrical and repetitive. Paint flake loss may even reflect patterns of manufacture. Loss may be indicative of the materials from which the piece was made. (For example, a crest rail made from a piece of wood that contains tangentially as well as radially cut wood might exhibit flaking paint only over the tangentially cut area because it is more reactive to changes in relative humidity than the adjacent radially cut piece.) Or acute loss may be the result of a period in which the piece was not valued and was kept in a poor environment. The problem is one of the ability to interpret the meaning from the loss. Although acute loss may have some relevance to the piece, it is not as direct and comprehensible a correlation as one sees with wear. Devoid of meaning, losses of this nature are distracting; therefore, conservators usually do their best to minimize, if not eliminate, them.

Wear and abrasion present different issues with painted furniture than with paintings. Abrasion to a painting is usually a sign of damage or overcleaning. It is detrimental, in that even the slightest loss of glaze or patina can change a color relationship or destroy the illusion of space. Leaving evidence of wear from intended use on three-dimensional decorative, utilitarian pieces, by contrast, has much to recommend it. Many people like the idea that these objects are old and have a history, as long as the damage caused by that history is confined to the edges or has softly abraded high points and niches, leaving a mellowed, "antique" look without severely compromising the design. Leaving this type of wear visible has merit from a formalist point of view, as well; these patterns of loss are less hard-edged than those of acute loss and are therefore less distracting.

Edges and sculptural forms tend to be emphasized, not obscured. The reasons for the loss are usually readily comprehensible as the result of the intended use and subsequent history of the object (Fig. 2). Therefore, formally, even historically and aesthetically, there is justification in some cases for leaving wear without compensation while inpainting acute losses to some level.

Changes in the Conservation Profession

Figure 2
This Windsor chair, shown after retouching, exhibits paint loss due to patterns of use and wear (Winterthur Museum 65.832).

The professionals consulted in the preparation of this article indicated a greater tolerance for, even appreciation for, leaving the visible marks of age and history as part of the object.[2] This trend seems to come from several sources simultaneously, including a broader concept of what conservation means, as influenced by such diverse fields as the conservation of ethnographic objects and that of contemporary art; changes in some methodologies of art history; forces of the art market; and some very practical concerns.

Years of organized thought and shared experience have led to a maturity, and perhaps growing conservatism, in the profession of conservation. There is an increasing dislike for seeing the conservator's tracks on a painting or an object. It is disturbing to be able to survey a body of work or a collection and be able to date a treatment with some accuracy just by looking at it. Conservators have not always been as anonymous or unobtrusive as they hoped or intended to be. Perhaps consequently, there is a greater willingness to let an object speak for itself without professional help.

In ethnographic conservation, there has been a significant change over the past twenty years in the attitude toward inpainting. There is an increasing awareness that one cannot know the cultural significance of a great number of factors and that the safest course is to interfere with the object as little as possible. Today, the trend in ethnographic conservation is to use a fill only when it is structurally required. Inpainting is generally confined to toning a fill to make it less visually distracting and to act as a visual bridge for the viewer; in general, designs are not carried over fills even in the most schematic way. The idea of noninterference is so important that there is even a reluctance to consolidate friable paint if the low binder quality of the paint is original and the problem can be addressed with proper storage. There is a new understanding that the powdery nature of a paint surface needs to be preserved for its aesthetic, and possibly culturally significant, qualities (Little 1994).

Similarly, issues pertaining to contemporary art have, at times, forced conservation professionals to challenge many of their revered notions about what art is, and what the appropriate interaction with it should be. Although these ideas were not new, especially to conservators of modern art, John Richardson's article "Crimes against the Cubists" (1983), and the responses it engendered, brought to the fore some of the issues of the artist's intent and the need for making conservation decisions on an informed aesthetic basis. In this article, Richardson accused conservators of having ruined many Cubist paintings by wax lining and varnishing. He contended that the conservator's ignorance and a single-minded concern for the physical preservation of the object over—or irrespective of—concerns for the artist's intent and the inherent aesthetic properties of the painting are to blame. Although responses to Richardson's article suggested that his accusations were too broad and not entirely informed, the exchange was one of several forces articulating the need for increased

sensitivity to the diverse aesthetic demands of modern and contemporary art. In contemporary art, respecting the intent of the artist may mean allowing some works to fall apart, while keeping others as pristine as possible. Ed Ruscha was dissatisfied with a painting and left it rolled up for years. Upon unrolling it, he decided that the cracks and flaking paint were what the painting needed. He brought the painting to a conservator to have it stabilized in that condition.[3] Some artists have suggested that some of their works be put away rather than tampered with, in the event of damage to a particular surface (Albano 1993:13). Anselm Keifer, by contrast, suggests that if a piece of paint or straw falls off one of his works, it should just be stuck back on (Albano 1993:12). In some works of art, the surface or exact color are not considered precious by the artist and are meant to be repainted. Consider, for example, some of Calder's industrial pieces. Ellsworth Kelly has, on some occasions, allowed some of his works to be repainted (Albano 1994). The point is that "one must have developed an appropriate aesthetic sense of the art for which you are steward. The past is littered with negative proof of this statement. The idea that conservation problems can all be solved with 'conservation solutions' is naive" (Albano 1994). Making decisions of this nature means being familiar enough with one's specialty to be able to make the aesthetic judgment to accept a certain amount of damage or change in contemporary art as we do in older works. Acknowledging change and damage—even significant change that we may find in paintings by Reynolds, for example—does not negate the experience of the art (Albano 1994).

The Effect of Recent Art Historical Trends

Recent art historical scholarship is showing trends that may also affect inpainting decisions. Although directions in art history today are diverse, and some are more or less appropriate to the topic of this investigation, the work of Jules Prown in setting out the logic and methodology of what he terms *material culture* is perhaps most relevant, and it has been seminal in the development of new approaches to art historical research. Prown (1982:1–2) put forth the argument that "objects made or modified by man reflect, consciously or unconsciously, directly or indirectly, the beliefs of individuals who made, commissioned, purchased, or used them, and by extension the beliefs of the larger society to which they belonged." Prown (1980:197, 200) maintains that "although a society may prevaricate or intentionally distort actuality in its utterances (journalism, propaganda, diplomatic communications, advertising) or in its pictorial statements . . . a society does not bother to deceive itself or others in such mundane things as most buildings or the furniture or pots that it makes for its own use," and that "style is inescapably culturally expressive, . . . the formal data embodied in objects are therefore of value as cultural evidence, and . . . the analysis of style can be useful for other than purely art historical studies." The methodology demands that the scholar of material culture thoroughly describe the object, make deductions based on that description, and finally, speculate on the meaning contained in the object.

So why does this kind of scholarship ask the conservator to inpaint less and leave more evidence of wear and use? The idea is twofold: The first is not to unconsciously interfere with style, not to impose one's own sort of handwriting on the design or the object, because it is just this sort of unconscious evidence that can be so crucial to interpretation. Second, one is not to eliminate signs of use and wear so as not to subtract

use from the analysis of the object. This is a methodology based on the intense scrutiny of the object itself, and the conservator or custodian of the object is responsible for not losing, even unconsciously, any information the object may contain. Seeing the value in this evidence of time and wear, as well as in style or other formalist concerns, has led the way to an aesthetic wherein the two may be appreciated simultaneously.

The discipline of material culture is but one influence that has had the effect of increasing awareness and appreciation for the "lower" forms of art, including folk or country-style decorative arts. It is in the appreciation of folk art, perhaps, that one sees the greatest tolerance, even reverence, for the marks of age and use. With less emphasis on the individual maker, who is often anonymous, objects may be appreciated as a product of culture and the passing of time, not as the end result of a single individual's conception. Thus, generations of wear and repainting and subsequent wear all may be part of the object's meaning and aesthetic. The challenges of cleaning and inpainting these objects are similar to those of polychrome sculpture. One must weigh the value of removing newer layers to reveal older, but perhaps less intact, ones against the aesthetic and historical confusion that can result with the surface of a piece as a nonsensical palimpsest of layers. Even in "higher style" painted furniture, it was not uncommon to repaint or regild a piece as it began to look worn or when styles changed, as evident in an advertisement for William Buttre's Fancy Chair Store, which reads, "A large assortment of elegant, well-made, and highly refined Black, White, Brown, Coquelico, Gold and Eagle Fancy Chairs, Settees, Conversation, Elbow, Rocking, Sewing, Windsor, and Children's Chairs of every description, . . . *Old Chairs repaired, varnished and regilt* [italics added]" (Fales 1972:167).

The Influence of Market Forces

The level to which one inpaints painted objects has been affected by several market forces. The rapidly increasing value of painted furniture in recent years has led the serious collector to be somewhat suspicious of a piece that looks too perfect. After all, what they are buying really is the painted surface, and they want to know what they are getting without having to peer through the work of the restorer (Colwill 1994). Similarly, the serious folk art collector wants to see the signs of age on an object (Flanigan 1994). One indication of the increasing monetary value placed on painted furniture is the mere fact that conservators are seeing these pieces brought to their studios instead of to the local fix-it, repaint, or strip shop. Nonetheless, the conservation treatment is relatively expensive and, besides the obvious ethical or aesthetic considerations, cost may be a force in keeping treatments conservative.

"Complete" Inpainting on Painted Furniture

On the other end of the spectrum is the philosophy that suggests that painted decorative arts should be inpainted to look as pristine as possible, emphasizing the original aesthetics of the piece and conveying to the viewer, insofar as possible, what the piece was intended to look like when made. There is certainly validity to this point of view. Presenting the object as pristine, without loss or wear or other signs of its age, tells about history in a different way. It conveys information about the object's makers and intended owners, including matters of taste and the availability and comparative value of materials. This approach is not at all in conflict with

Prown's notion of the study of material culture. The critical question here is, Must the piece look new or nearly new to convey this information? Which is more confusing, and even potentially misleading: looking through age and wear or looking through contemporary eyes at a contemporary restoration or reconstruction? Would it not be possible to extrapolate the same information with a piece that is less restored?

There appears to be general acknowledgment that an old object that is overrestored looks wrong, like a bad face-lift. This is, in part, because one expects some look of age on genuine artifacts; to have all of them obliterated makes the object ring false. Then there is the insidious problem of anachronism. One can often readily detect even a very proficient and skilled Victorian restoration on an eighteenth-century object, or marvel that the Van Meergen forgeries were ever thought to be true Vermeers. Perhaps frighteningly, we can all too often readily spot conservation treatments and reconstructions that date back only thirty years or so. This is a rather humbling experience. Not only are our skills not as fluent as those of period artisans—let alone masters who practiced these painterly and decorative techniques every day—but, as Prown and the Italians would likely acknowledge, conservators bring their own period sensibilities to the work. Furthermore, professionals are faced with a problem not unlike a problem forgers face: care and attention to detail can tend to make fluid expressions mechanical, rigid, and tight. Though these concerns should not keep conservation professionals from their work, or even from inpainting, these issues should inform the work with a certain amount of humility and sense of perspective. The conservator's interventions are but a small chapter in an object's life, and, in the midst of everyone's best efforts, it is all too easy to lose sight of this fact. Whatever level and style of inpainting is chosen—even leaving all signs of age—the conservator must acknowledge that a given decision is but one solution to a particular set of concerns and that future generations will have their own concerns and solutions.

The Purpose of Treatment

Just as conservators come to their work with their own sensibilities and philosophies regarding reconstruction, as well as those of curators, institutions, and clients, in the end individual objects present problems unique unto themselves. Somehow, the actuality of the object and its particular circumstances must be evaluated and integrated into a coherent treatment.

The foremost consideration should be, Why is this object being treated? Is it for a didactic or connoisseurship exhibition, or for the home of a private collector? Where it will be used? If it will be part of a museum gallery setting or period room, what is the level of aesthetic compensation of the room as a whole?

The Role of Style

Most of the people interviewed by the author felt that different styles of painted furniture legitimately had different aesthetics, which called for different approaches to aesthetic compensation.[4] Gregory Landrey, then senior furniture conservator at the Winterthur Museum, gave as an example a pair of high-style, Baltimore-painted klismos chairs (Fig. 3). For these chairs, the artistic intent is found in the detail and finesse of the painting, as well as in the form. To leave the detail illegible would change the intent and meaning of the piece. Likewise, Pre-Raphaelite art furniture is perhaps best inpainted to the same degree as an illusionistic paint-

ing. Such a piece is likely to contain individual, illusionistic paintings, the intention being to present a piece equivalent to fine art. These same concerns may simply not be applicable to a primitive corner cabinet that was meant to be part of the architecture of a room and repainted along with the other architectural elements. Although very interesting, it may not be as critical that the current presentation surface be the same color as the original.

The Condition of the Object

The next consideration is certainly the condition of the object. Time, tastes, and past use have often not been kind to painted furniture. Not only is the conservator of painted furniture likely to uncover many recoatings, as well as wear or extensive flake losses that may or may not be active, but there will also likely be several layers of extensive overpaint (including several separate applications over the present surface), gouges, stripped or barely extant gilding, oil gilding over water gilding, bronze powder paint of various media over anything, and so on—the list is long. Most damaging are those restorations that involved scraping, sanding, or stripping away all or part of a damaged original surface. Furthermore, decisions regarding compensation cannot be made until the conservator can assess the possibility of safely removing more recent, unwanted coatings or inpainting. Even if it is possible to safely and effectively remove later coatings, the professional must decide if it is sensible to do so based on current understanding of the condition and legitimacy of the layers below, as well as probable budget and time limitations. Only after these issues are addressed can the most appropriate level of aesthetic compensation begin to be assessed.

The Sequence of Inpainting

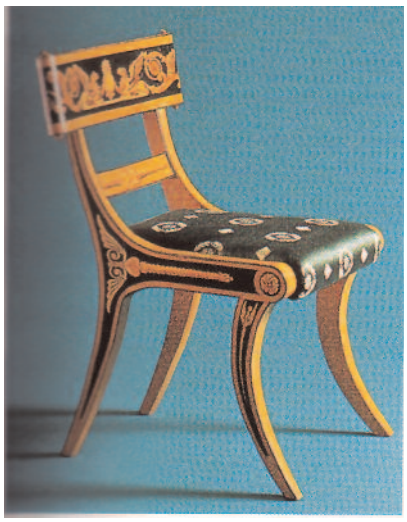

Figure 3
A finely painted klismos chair from the Baltimore firm of Findlay Brothers, 1815–25 (Winterthur Museum 92.29.1).

In the book *Conservation of Wall Paintings* (Mora, Mora, and Philippot 1984:306–7), it is suggested that lost patina and wear be inpainted before treating acute losses. The author recommends that, on most paintings and painted furniture, the opposite approach be taken. Going so far as to replace patina and wear predetermines the level to which one will need to inpaint the entire object, rather than allowing the piece to speak for itself. It is this predetermined outcome, this inpainting to a preset level, that is likely to give the object a false ring and to result in the application of more restoration paint than is required to visually reintegrate the object. This is truly imposing the idea of the restoration on the reality of the object. To inpaint the subtle traces of wear or lost patina may simply not be appropriate on a particular piece of painted furniture. Accepting the notion that acute losses are extremely visually distracting, it is very difficult to assess the nature of the patina or the subtle nuances of wear while lacunae exist. The author suggests that the largest or most distracting losses should be addressed first, and this may be limited to initially filling and toning those losses. The conservator can then simply continue the process of addressing the most visually distracting losses, working them a little at a time, until the piece reads as a coherent whole.

This is essentially the way in which most paintings conservators address inpainting, the only difference perhaps being the extent of reconstruction required to achieve the coherence and legibility of the object. Certainly there are some tricks that often aid in achieving the legibility of a piece of painted furniture. Restoring disrupted or missing striping or

penciling, for example, can cause otherwise more distracting areas to visually recede into the background. Interrupting a large ring stain or crack to carry out a design element that it has disrupted may suffice to visually eliminate the stain or crack without actually covering it with paint. The conservator may often find that there is a weak link in the chain of the restoration process, so to speak—one material, a layer of paint that cannot be removed, or remnants of gilding that should not be tampered with—that sets the key in which the reintegration will be played (Bigelow 1994).

Conclusion

In attempting to find criteria for the aesthetic compensation of painted furniture, it is clear that there is no entirely satisfactory analogy to be found within the existing disciplines of conservation. Although aspects of painting conservation and ethnographic conservation, as well as issues in contemporary art, may be useful, the utilitarian component and unique character of painted furniture require that it be considered on its own terms. Even within the category of painted furniture, there is great variability. The style of the object, the purpose or audience for which the object is being conserved, and the condition in which it is received all affect the degree or style of inpainting that will best unite the piece visually. To avoid excesses of shortsightedness, conservators must rely on their own cognizance of the role they play and be humbled by their ability to abuse it, even if unintentionally. In the author's opinion, both Brandi and Philippot were correct. Brandi was right in his assertion that each artistic work contains an aesthetic unity and meaning that is greater than the sum of its parts and that that aesthetic unity is present in the fragments of incomplete works. Philippot was astute in his claim that the aesthetic unity of a work can be understood and, in part, restored by the conservator who is skillful as well as knowledgeable, and developed in his or her sensibilities.

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Notes

1 *Inpainting* is the term used in conservation to indicate retouching of lost areas of paint. It was coined to specifically convey the notion that retouching by the professional conservator is strictly confined to areas of loss and does not extend over original paint.

2 Sixteen individuals professionally involved with the issues of aesthetic compensation from the fields of paintings, furniture, modern art, and ethnographic conservation, as well as curators and dealers, were informally interviewed by the author for this paper (see Acknowledgments). All were interviewed in hopes of gaining insights into relevant issues and alternate points of view. This process was not intended to be either exhaustive or statistically representative of the views of all conservators or related professionals. Most of those consulted felt that signs of age and wear that did not interfere with aesthetic appreciation were appropriate, and each cited several influences, as is noted here.

3 The conservator was Denise Domergue.

4 Of the sixteen professionals interviewed, two felt that pieces should be made to look as similar as possible to the way they looked at the time they were made. They felt that this was the best way to convey the intent of the piece and the times in which it was made.

5 Affiliations of the individuals included in this list are as of the time of this project.

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Conservation of Folk Art: Shelburne Museum's Collection and Approach

Valerie Reich Hunt

The Shelburne Museum in Shelburne, Vermont, founded in 1947 by the pioneer collector of Americana, Electra Havemeyer Webb, today encompasses some eighty thousand artifacts presented in thirty-seven exhibit buildings and historic structures within a 16.2-hectare (40-acre) park. The museum's extraordinary collection of American folk art includes quilts, weather vanes, decoys, carousel animals, cigar store figures, trade signs, ship carvings, painted furniture, toys, and horse-drawn vehicles. J. Carter Brown (1987:6), director emeritus of the National Gallery of Art in Washington, D.C., has called Shelburne "one of the great combined repositories of American arts, architecture and artifacts."

A Folk Art Collection Is Born

Electra Havemeyer Webb was born into a privileged life. Her parents, H. O. and Louisine Havemeyer of New York, were passionate collectors of European Old Master and Impressionist paintings. Their collection ultimately enriched the Metropolitan Museum of Art. Electra inherited the collecting instinct but quickly developed very different tastes. She purchased her first tobacconist figure at eighteen and had it delivered to the family estate. Although she was immensely proud of her first acquisition, her parents recoiled in horror. When they exclaimed, "What have you done?" Electra Havemeyer replied, "I have bought a work of art" (Havemeyer 1958). Her early interest in folk art grew into a lifelong mission to collect and preserve the art and artifacts of early American life. She married J. Watson Webb of Vermont in 1910 and, as she raised five children, she filled the family home with artifacts, including rugs, painted furniture, and sculpture (Fig. 1). Her children recall that the family indoor tennis court slowly filled with tobacconist figures and other sculpture that could not fit into her house. It was apparent that Electra was destined to build a major museum, and she went about this with the same enthusiasm she had shown at eighteen. She acquired land in Shelburne, Vermont, in 1947 and moved the historic, early-nineteenth-century structures she had collected to this site, where they would house her ever growing collection of Americana.

Electra Havemeyer Webb was clearly one of the first collectors of American folk art who was willing to declare it art. "My interpretation is a simple one," she wrote in *Art in America* (1955:15):

Figure 1
Electra Havemeyer Webb and J. Watson Webb at home in the 1930s with a small collection of folk sculpture. At the far right of the photograph is a tobacconist figure of a Turkish woman, discussed in this chapter.

> Since the word "folk" in America means all of us, folk art is that self-expression which has welled up from the hearts and hands of the people. The creators can be rich or poor, professional or amateur, but in America, and particularly in Vermont, they are still known as "folks." Their work can be exquisitely wrought or it can be crude. Perhaps the creators did not think of it as art, but I am one who has thought so for approximately fifty years.

Unlike most other early folk art collectors, who concentrated on paintings, Electra Havemeyer Webb was strongly interested in sculptural pieces. Her collection is recognized for the large numbers of each type of artifact she acquired.

The museum officially opened in the 1950s and within a decade became the leading visitor attraction in Vermont. A large building, the Stage Coach Inn, built in 1783 and moved to the museum in late 1949, became home to her collection. In her enthusiasm to share the collection with the public, she created exhibit spaces where visitors could wander around the artifacts and have the same intimate contact with them that she had enjoyed in her home. Nearly every folk art object the museum owned was on display, filling the two main floors, the attic, the exterior porches, and the basement of the Stage Coach Inn. In terms of exhibit design, there were few models to follow at the time.

Defining Collection Care: The Early Years

In her museum plans and design, Electra Havemeyer Webb never imagined that visitation would grow to 150,000 annually, and by the 1970s it was obvious that the collection was beginning to suffer. The deteriorated condition of the folk art objects was partially the result of poor environment and less than ideal exhibit practices, which lasted many decades. Fragile painted surfaces were damaged by museum visitors seeking not only a visual experience but a tactile one. During the 1950s and 1960s, the maintenance staff tried their best to care for these objects. Unfortunately, the field of art conservation was in its infancy and museum standards for collection care had not been defined. At Shelburne, painted wooden artifacts were routinely coated with a linseed oil mixture, a popular remedy

that was believed to preserve wood. It also served as a "varnish" that enriched the colors of the paint. In time, however, the oil oxidized and cross-linked, casting a dark film over hundreds of museum pieces. Though well intended, such early attempts at maintenance gradually compromised the condition of the collection.

During the museum's first two decades, there was also little understanding about proper environments for artifacts. In the early 1960s, an electric baseboard heating system was installed in the folk sculpture galleries at the Stage Coach Inn for the comfort of museum staff and visitors. As heat was turned off and on, the relative humidity in the building fluctuated sharply, which resulted in structural damage—such as splits—and in embrittlement of glues and detachment of painted surfaces. Moisture problems and inadequate ventilation also contributed to deterioration.

A condition survey of the folk art collection was carried out in 1984, and a treatment priority list was developed with the assistance of Shelburne's curators. The ultimate goal was to restore Webb's collection to the condition it had been in when it had passed from private ownership to the stewardship of a public institution in the 1950s. In addition, a decision was made to correct any inappropriate restorations that had been done before that time. The condition of the collection was determined through a rating system of 1–5, from excellent to very poor condition. Categorization was based on the degree of deterioration and on whether specific conditions could jeopardize the preservation of the object. For example, severely deteriorated objects with structural and surface problems were listed as in "very poor" condition. If the aesthetic quality was compromised by inappropriate surface coatings or grime, the object was given a "fair" condition rating.

Once the rating was established, museum curators assisted in assigning objects a curatorial assessment of their importance to the collection. The final treatment priority list was a combination of the conservation and curatorial evaluations. For example, a high rating on the treatment priority list was reserved for rare or important objects in extremely poor condition that needed immediate conservation in order to arrest further deterioration. The collaborative examination of numerous objects and the different types of deterioration laid the groundwork for a strategy for treating the collection.

Developing a Conservation Philosophy for Folk Art Objects

A wide variety of folk art was fabricated, modified, and used for functional yet decorative purposes. The landscape of towns during the late nineteenth century was rich with trade signs and shop figures advertising the availability of services and goods; weather vanes sat atop barns and other buildings, monitoring the wind; decoys aided hunters; and carousel figures carried numerous riders. As the examination and treatment of numerous pieces progressed, it became obvious that the collection shared a history shaped by the customs and traditions of nineteenth- and twentieth-century society. Many folk art objects are characteristically worn from their utilitarian function, and also from exposure to such outdoor factors as sun, rain, wind, and extreme temperatures, which have permanently altered the surface appearance of wood, metal, and paint. This is an integral part of their interpretation as historical art objects and should be preserved.

The wear and maintenance history of the paint surfaces of these objects is supported by cross-sectional analysis. Within the paint strata,

numerous layers of brilliant colors are separated by varnish layers and grime. Many cigar-store figures, for example, were routinely freshened with a new coat of paint because shop owners considered them to be an important investment and essential for business (Sanborne 1911:29–30, 42–43). The media and pigments of these paints can be identified with modern analytical techniques,[1] and this provides an accurate record of nineteenth-century paints, as well as of different styles of repainting.

The condition of the painted surfaces can also pertain to how the object was used. The paint surface of a decoy, for example, often holds physical evidence of use in the field: small dents, nicks, and paint abrasions; twine impressions in the paint that show it was once anchored within a rig; gunshot holes; old repainted surfaces; paint soiled from years of use in muddy wetlands; even waterfowl bloodstains. During conservation treatment, every effort should be made to preserve these historically significant characteristics, as they are relevant details of how the object was used (aggressive cleaning attempts can ruin such fragile surfaces).

Structural repairs commonly were made during the utilitarian period of the object. For example, many wooden artifacts were strengthened and repaired with small pieces of sheet metal or iron brackets. These modifications can serve to illustrate the resourceful and frugal nature of people who maintained these objects. They also are historically significant and should be preserved.

Conservation decisions must also take into consideration the artist's original intent. As an example, many carousel animals were painted as intricately as they were carved, exemplifying the fine craftsmanship of the period. The job of the painter in a carousel factory was as highly recognized as that of the important and skilled carver. The animals were painted in the same manner as an oil painting with a ground, base coat, and many colors applied in glazes to give highlights and modeling. To respect the artist's intent, a conservation treatment may involve the removal of degraded original and/or nonoriginal varnishes in order to reveal the true colors of the painted surface.

Occasionally, the preservation of historically significant characteristics may be *in conflict with* the artist's or maker's original intent, and thus with the original aesthetics of the piece. If the entire bill is missing from a beautifully carved decoy because it was gunned over, for example, should the damage be left alone and considered historical, or should the bill be replaced to honor the artist's original intent? Without a bill, the decoy can not be fully appreciated as a piece of folk sculpture. Many decoys were also intricately painted, and these surfaces can be significantly obscured by degraded maintenance varnishes or paint loss as a result of use in the field. The decision of whether or not to intervene by cleaning or filling losses is a complex one that must be arrived at through the collaborative efforts of curators and conservators. Often it is possible to achieve a fine balance between preservation of both the maker's intent and significant historic characteristics.

The approach to the conservation of folk art objects at the Shelburne Museum thus encompasses a strong regard for the artist's original intent, historical use, and basic aesthetic qualities. By combining these ideas in a conservation approach, one can increase the educational value embodied in functional folk art objects by preserving their historic integrity to the greatest possible degree. Concurrently, the aesthetic qualities are preserved.

The Composite Nature of Painted Folk Art: Treatment Dilemmas

Rarely does one find an art or historic object made from a single material; in general, many components are present. Organic, inorganic, and fabricated materials were used by artists and craftspeople to embody a visual concept. In the production of an object, elements were joined with animal glues, wood dowels, and metal components such as bolts, screws, or nails. Surfaces were coated with one or multiple paint schemes with varying media and pigments. The composite structure of many painted wooden folk objects makes them more susceptible to damage from environmental conditions, as well as from handling and maintenance. The conservator who treats composite objects may be required to address problems associated with the biodegradation of wood, insect infestation, corrosion of metal components, unstable paint layers, chemically reactive or incompatible materials, inappropriate surface coatings, and/or poor restorations.

It is well known that all materials react differently to factors such as light, temperature, humidity, and pollutants in the air. For most objects, there is a weak link—some material that can deteriorate or react, causing damage to other materials within the same structure. The goal of any conservation treatment is to arrest deterioration, but to what extent should a conservator intervene with treatment? Knowledge of folk art materials and history is valuable in assessing types of deterioration for the proposal of treatments. For example, tobacconist figures, trade signs, weather vanes, ship figureheads, and other similar objects were often repainted as part of their maintenance (Fig. 2). This usually involved scraping the surface of loose paint and sanding it in preparation for a new layer; therefore, the condition of underlying layers may be weathered and poor, resulting in weak areas within the paint strata. Microscopic examination of such painted surfaces can reveal many weathered layers with characteristic oxidation and cracks within each layer.

As repainting was frequently done with any type of paint available, this has often resulted in interlayer cleavage caused by paint incompatibility. In some instances, the very materials used to fabricate a paint layer will deteriorate because of inherent problems such as the excessive use of chemical drying agents, resulting in severe "islanding" caused by the inability of the paint to withstand its own contraction during the drying process (Stout 1975:40–41). When such problems jeopardize the physical or aesthetic integrity of an object, a conservator's intervention is ethically justified.

A conservation treatment can be extremely beneficial to both the stability and appearance of deteriorated folk art objects, but such treatment should not change the basic character of the object. Conservators

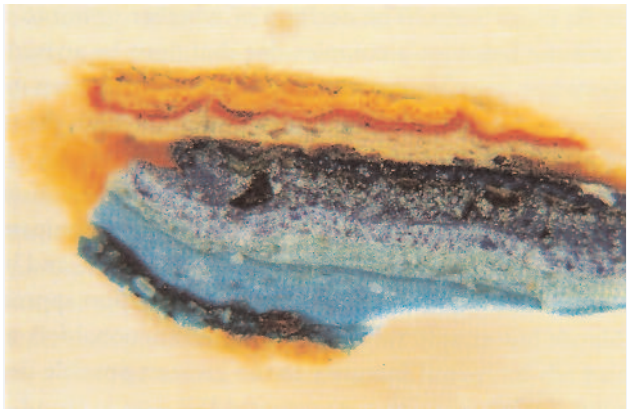


Figure 2
Cross section of a painted surface from one of Shelburne Museum's tobacconist figures from the 1870s. The paint strata show numerous paint layers within the sample.

should investigate all treatment options available and assess their promise for rendering the ultimate treatment. In this regard, the choice of materials and methods is an important aspect. For example, painted wooden weather vanes that have endured an outdoor life have a particular appearance that is aesthetically pleasing. The surface appearance also can indicate a history of outdoor use: paint may be lost, and the remaining paint may be oxidized, weathered, and stained, or it may be actively flaking. The exposed wood might be dry and weathered. The application of a synthetic resin, such as Acryloid B72, may effectively consolidate the surface, but such a procedure could darken and saturate areas of weathered wood, significantly changing the appearance of the object. What is described as the *folk art aesthetic*—characteristics of surfaces and materials resulting from use and age—can be ruined by overzealous attempts at conservation and restoration.

Treatments also require consideration of the chemical and physical characteristics of component materials. A problematic combination of materials is wood and iron, a combination commonly found in folk art objects. Ferrous material is damaged by contact with hygroscopic materials such as wood, and the acidity in wood can further accelerate the corrosion process. Paint covering a corroding nail or screw can be stained brown with corrosion by-products. Furthermore, the expansive nature of the corrosion process will eventually cause paint to flake off from a corroding surface. In cases where deterioration of one component is damaging adjacent areas, measures should be taken to stabilize the deterioration while preserving as much as possible of the original materials. What does one do about treating corroding nails, screws, bolts, or other hardware that is buried in the wooden structure? The most conservative approach—that of improving the exhibit or storage environment—would only slow the corrosion process. A more radical approach, for example, may be to excavate the corroding screw, treat the ferrous material separately, and return the screw to the site with a protective coating of synthetic resin. But, should one disturb or sacrifice a small area of the painted surface to accomplish this goal? It is important to fully consider what can be achieved from such intervention. Also, what does one do about disfiguring, brown corrosion stains on a painted surface?

As another example of the need for consideration of the physical characteristics of an object, if a painted wooden trade sign has a history of dimensional movement and associated flaking paint, a conservator should select conservation materials for surface consolidation, filling, and inpainting that will allow some coefficient of expansion. The choice of a synthetic resin for consolidation, a microcrystalline wax mixture for filling, and an acrylic paint for inpainting may be appropriate, as these offer more flexibility than most other conservation materials.[2] One must also consider the eventual exhibit or storage environment of the object when selecting conservation materials. If it is to be exhibited in an uncontrolled environment, will the materials be adversely affected by variations in temperature and relative humidity?

Conservation Treatment Case Studies

The application of ethical decisions and treatment strategies in conservation can be complex. At the Shelburne Museum, past treatments serve as a reference point for current and future conservation decisions, thus establishing a consistent yet flexible approach. The following case studies

illustrate solutions to some of the issues discussed here, including, How much surface cleaning is appropriate? To what level does a conservator inpaint or compensate losses? To what extent does one save historic modifications? Should a conservation treatment change the weathered and deteriorated appearance characteristic of most painted folk art objects?

George Washington on Horseback (painted wood carving, ca. 1780)

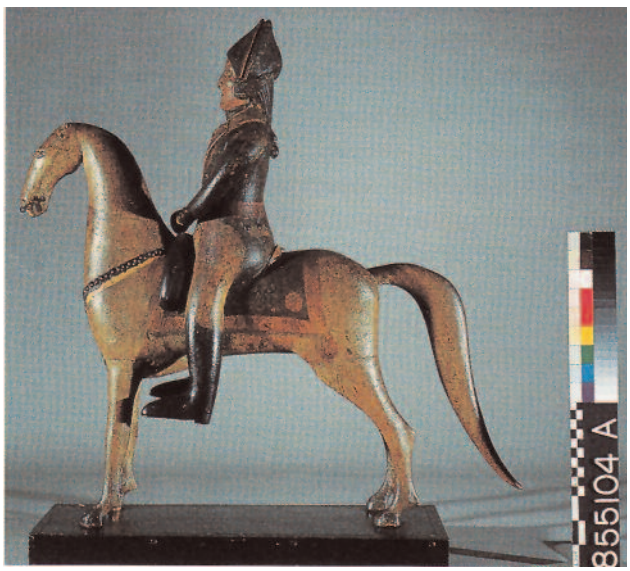
Treatment of this Early American folk art carving involved many decisions. First, since the object was decorative and not utilitarian—it was created as a patriotic carving and was probably used as an ornamental piece in a home—the approach to this treatment focused on illuminating the artist's original intent and improving the appearance of the object.

When it was brought into the lab for treatment, the carving was in poor condition and considered to no longer represent the artist's original intent (Fig. 3). Although the surface was painted many colors, it appeared dark brown due to a film of aged, cross-linked linseed oil. The physical wear on the object probably was the result of excessive handling. The horse's ears were missing, as were leather elements from the breastplate and most of the bridle. In addition, the carving had been mounted to a modern wood base with screws.

Initial cleaning tests indicated that the horse was originally white, and a decision was made to remove the linseed-oil coating from the surface. This was done using a solvent mixture of 70% benzine, 20% acetone, and 10% diacetone alcohol, by volume. Complete cleaning revealed an intricately painted surface that was in excellent condition, and revealed, as well, such features as light gray shadows around the saddle blanket and on the horse's head, where a leather bridle had once been attached. The darkened coating had also masked the brilliant yellow epaulets and buttons on Washington's uniform and the delicate skin tones on his face. Even if the darkened linseed oil (or "varnish") layers were original to the object, a decision would have been made to remove them, in the same way that oil paintings are cleaned.

Figure 3
George Washington on Horseback, ca. 1780, before conservation treatment. H.54.6 cm; W:17.8 cm; L:50.8 cm. A darkened linseed oil coating obscures the original paint, and physical elements are missing.

Figure 4
George Washington on Horseback, after conservation treatment. The artist's original intent governed the treatment of this decorative folk sculpture.



Varnish layers on paintings and ornamental folk art objects are similar; they were applied to surfaces to protect them and to enhance the appearance of the paint. When such varnish coatings degrade and discolor, they no longer serve these purposes; instead they disfigure the appearance of the original paint. Removal of such coatings is appropriate, but the varnish type should be identified and documented before removal. The decision to remove some historic varnishes may be difficult, as not all degraded varnishes obscure the appearance of painted folk art objects. Certain surface patinas are, in fact, aesthetically pleasing.

Although the initial treatment proposal called for cleaning only, we found it necessary to reevaluate the appearance of the object after cleaning. The darkened oil film had, in fact, unified the appearance of the object, and, through the cleaning process, the painted surface reached a higher degree of preservation than the rest of the object. Other damage, such as the missing bridle and horse's ears now seemed more obvious, and the overall appearance of the object seemed out of balance. This development could not be predicted when the initial treatment was proposed. Accession photographs of the figure provided accurate documentation of its earlier appearance and confirmed that many of the changes could be attributed to handling by museum visitors rather than to age. A decision was made, therefore, to bring all components of the artifact to the same visual state as the painted surface. The addition of missing elements completed the appearance of the carving and were aesthetically important, as they visually reintegrated the horse and rider. By improving the appearance of the object, the artist's original intent was restored (Fig. 4). In this case, the treatment of the painted surface necessitated the conservation treatment of other components.

"Luce's Livery" trade sign (ca. 1870)

A large double-sided trade sign with the design of a horse in the center and the lettering "LUCE'S." above and "LIVERY" below, had been in the collection since the 1950s. It was constructed from three pine boards dowelled together and framed with wood and iron brackets, from which the sign originally hung. The sign had been displayed for years in the damp basement of the Stage Coach Inn, where seasonal moisture fluctuations had caused dimensional movement of the wood, resulting in extensive areas of flaking paint (Fig. 5). Between 1950 and 1970, an attempt had been made to readhere the paint to the wood with a coat of wax, which only whitened and disfigured the appearance of the sign, and, in 1984, the deteriorating sign was moved to a climate-controlled storage location where active flaking of the painted surface continued. Accession record photographs from the 1950s became a valuable tool for assessing how much damage had occurred over forty years, and they also served as a guide as we attempted to compensate the damage that had occurred at the museum.

Although cross-sectional analysis indicated that areas of the sign had been repainted three times, a decision was made to preserve all the layers and to restore the most recent presentation surface, which probably had been painted sometime between 1870 and 1890. The paint layers contained nineteenth-century distemper paints, which were identified using fluorescence microscopy (Wolbers and Landrey 1987). Working from accession photographs, the conservation team consolidated, filled, and

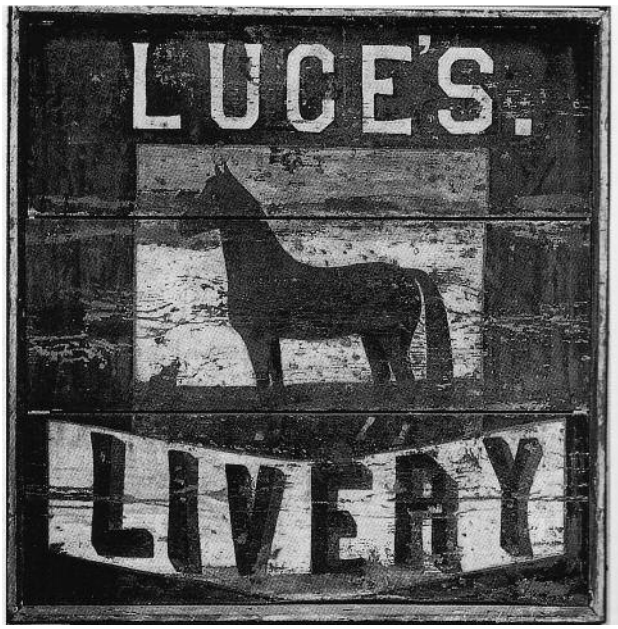


Figure 5
Luce's Livery trade sign, ca. 1870, side 1, before conservation treatment. 132.1 cm × 132.1 cm. Visible are paint loss in the lettered area and a soiled surface.

Figure 6
Luce's Livery trade sign, side 1, after conservation treatment. The treatment conserved all original material and improved the aesthetic quality of the sign, while preserving its aged outdoor character.

inpainted deteriorated areas until the sign was restored to a semblance of its 1950s accession condition (Fig. 6). Flaking paint was readhered to the substrate with a 15% solution of Acryloid B72 in toluene. As a preventive measure, areas of bare wood were sized with a 10% solution of Acryloid B72 in toluene to help buffer the wooden substrate from relative humidity changes. A small amount of fumed silica was added to the resin to produce a matte appearance, thus maintaining the rather dry surface quality characteristic of most weathered folk art objects.[3]

Once the surface was stabilized, minor surface cleaning and removal of the disfiguring white wax was accomplished with xylene. Wax was chosen as a fill material for losses because it remains somewhat flexible and can withstand some dimensional movement. Where possible, toned wax fills were used to limit the amount of inpainting. The black borders of the sign were originally painted with an oil-based paint, to which sand had been added to create a textured surface; losses in these areas were filled with a combination of wax, black pigment, and sand. Once dry, this material effectively duplicated the color and texture of the border areas.

An attempt was made to visually integrate the important aspects of the sign such as the design or lettered areas; however, older areas of paint loss visible in accession record photographs were not filled and inpainted. While conservators have the technical capability to visually erase all evidence of wear and repair damage, the goal of this treatment was to stabilize and preserve all original material, to interpret the artist's intent, and to improve the aesthetic integrity of the trade sign, while preserving evidence of historic use.

Tobacconist figure of a Turkish woman (ca. 1860)

Utilitarian folk art objects such as tobacconist figures endured a hard life. The condition of surviving figures was often compromised from the effects of harsh weather, rough handling, and poor storage. To what extent does a conservator intervene? Should large missing elements be replaced? Addressing these and other issues requires careful consideration of the history of tobacconist figures (e.g., initial fabrication by carvers and

painters and historic use in front of tobacco shops) and, ultimately, how the object will be exhibited and interpreted in a museum.

In 1991, treatment was begun on a tobacconist figure of a Turkish woman. It was one of the first items collected by Electra Havemeyer Webb and can be seen in the photograph in Figure 1. The piece arrived in the conservation laboratory in poor condition (Fig. 7). The entire figure was covered with a heavy coating of darkened linseed oil, which totally obscured all original colors and made the surface very shiny. Some areas of the paint were flaking. Most of both feet were missing and the figure listed to one side. It was attached to a wooden base with iron wheels, and an iron bar was attached to the back of the figure for support. There was a large crack down the front, and the proper left forearm was missing.

Cross-sectional analysis of the paint on the cloak showed several similar paint histories; more important, it indicated that there was no original varnish layer on top of the red paint. Instead, the linseed-oil coating applied at the museum in the 1960s lay directly on the paint surface, and it had partially bonded with exposed pigment particles of the red glaze, making cleaning difficult and tedious. A number of different methods had to be used, including mechanical scraping where the film was brittle, a xylene-benzyl alcohol gel,[4] and solutions of organic solvents in varying proportions. The red layer was actually a lightly bound glaze that was extremely sensitive to any cleaning attempt, particularly on the front. The poor condition of this paint surface became more obvious as cleaning progressed—very little remained, perhaps due to a previous cleaning. Extant areas had very little color (the pigment may have been fugitive and therefore damaged by light when the figure was in a shop front). In contrast, most of the red paint on the rear of the figure was intact. The darkened linseed oil had masked this difference in the paint color. A curatorial decision was made to delicately compensate lost areas of red paint on the front to unify the figure's appearance. An isolating varnish layer of semimatte Liquitex Soluvar varnish was applied to the figure before inpainting with Winsor and Newton acrylic emulsion paints.[5] Since the pale color may have been the result of historical use, the color on this area was not strengthened to the same level as that of the back.

It is unlikely that the damage to the feet resulted entirely from use in front of a tobacco shop. At the turn of the nineteenth century, tobacconist figures became obsolete and shopkeepers turned to new forms of advertising. Many figures were carried off to dumps, burned, or stored in barns. Some were used by early collectors as lawn or porch ornaments. The actual cause of the missing feet on this figure could not be determined; however, for aesthetic and structural reasons, a collaborative decision was made to replace the lost areas so the figure could stand erect without the use of the unsightly iron support bar.

Research into Turkish costume indicated that the figure would have worn a slipperlike shoe with curled tips. Fortunately, the heels were still intact, making it possible to determine the original width, color, and texture of the missing areas. Working from illustrations of this type of traditional dress, much the same way as the carver did, the conservators fabricated the missing front portions of the feet with an inner core of wood and outer core of slow-drying epoxy, bulked with phenolic microballoons.[6] Once hardened, this bulked epoxy was light in weight and could be easily carved with woodworking tools and sanded. The fabricated sections were attached to the figure with liquid hide glue for ease of reversibility, and the

Figure 7
Tobacconist figure of a Turkish woman, ca. 1860, before conservation treatment. H:172.7 cm; W:61 cm; D:71.1 cm. The shiny, brown film of linseed oil obscured much of the original paint. Missing feet caused the figure to lean precariously.

Figure 8
Tobacconist figure of a Turkish woman, after conservation treatment. The visual interpretation of the surface was improved by removing the linseed-oil varnish and by inpainting and applying a protective varnish. Note the wear areas (paint abrasion, dents, and scrapes) left untouched as evidence of historical use. The reconstructed areas of both feet improve stability and overall appearance.

surfaces of the new areas were textured with acrylic medium and inpainted with acrylic paint to match surrounding areas. The missing forearm and hand were not fabricated because insufficient original material remained. (Although the other hand and forearm were intact and could serve as a prototype, differences in the position of the arms made it impossible to determine the exact design of the missing forearm) (Fig. 8).

In the approach to the treatment of this sculpture, the equal importance of the following factors was acknowledged: the preservation of the aesthetic quality of the artifact embodied in the artist's original intent, its history as a tobacconist figure, and the improvement of its structural stability.

Conclusion

Successful conservation treatments require a carefully considered balance of concerns, including historic evidence of use, the artist's original intent, and aesthetic integrity. In addition, the choice of treatment approach, the methods and materials used, and the anticipated end result of conservation treatment are equally important. In the particular case of folk art treatments, the conservation process becomes a synthesis of these issues.

Furthermore, in any conservation treatment, it is necessary to ask some difficult questions: Is this the best treatment possible? Will the benefits of a proposed treatment outweigh the drawbacks of intervention? Is it possible to wait for better conservation methods to be developed before treating an object?

At the Shelburne Museum, each object is considered within the context of the folk art collection as a whole. Taken into account are the parts of the story the object can offer museum visitors, as well as scholars. Shelburne's large and varied collection of folk sculpture retains a remarkable degree of physical integrity. Although many of these folk art objects lack provenance, they serve as physical documents and contain significant information about materials, manufacture, and historical use. The comprehensive ethical approach to the treatment of painted folk objects discussed in this article ensures the preservation of characteristics unique to this type of art.

Acknowledgments

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Notes

1 The work of Wolbers and McCrone, as well as others in the field, has provided the scientific means by which such analysis can be accomplished. See, for example, Wolbers and Landrey 1987; McCrone 1982; and McCrone, McCrone, and Delly 1984.

2 Microcrystalline wax is a complex mixture of isoparaffinic and naphthenic hydrocarbons obtained from refining petroleum fractions (see Materials and Suppliers). Winsor and Newton Artist Acrylic Paints are available from most art stores.

3 While consolidation of painted surfaces with Acryloid B72 has been used successfully at Shelburne Museum for a decade, many other methods are currently in use or are being developed. Of particular note is the recent work by Hansen, Lowinger, and Sadoff (1993).

4 As developed by Richard Wolbers, associate professor in art conservation at the Winterthur/University of Delaware Program in Art Conservation.

5 Liquitex Soluvar Picture Varnish can be diluted up to 25% by volume with naphtha. Fumed silica can be added for varying degrees of matte appearance.

6 The use of microballoons with epoxy as a fill material is based on the article by Grattan and Barclay (1988). The slow-curing West System Brand 105 epoxy resin and 205 hardener were heavily bulked with West System Microlight 410 filling and fairing additive in the proportion of 1 cup (0.24 l) of filler to 150 ml of mixed epoxy.

Materials and Suppliers

Acryloid B72, Conservation Materials, Ltd., 100 Standing Rock Circle, Reno, NV 89511

West System Brand 105 epoxy resin and 205 epoxy hardener, Gougeon Brothers, Inc., P.O. Box 908, Bay City, MI 48707

Liquitex Soluvar Picture Varnish, available from art stores and from conservation materials suppliers.

Microcrystalline wax, Conservation Materials, Ltd.

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Collaborations Past and Present: A Classical Success Story

Lynne Dakin Hastings and Deborah Bigelow

This article addresses two collaborations that created and conserved an important suite of Baltimore painted furniture for past and future enjoyment. These critical dialogues—between artist and client, curator and conservator—have spanned almost two centuries.

John Ridgely of Hampton and his wife, Eliza, commissioned a suite of painted furniture in 1832 from John Finlay, the most prominent "fancy" furniture maker in Baltimore. The suite is exhibited in the first-story drawing room of the great house Hampton Hall (Fig. 1), constructed in Baltimore County, Maryland, between 1783 and 1790. Hampton was built on the English country-house model, where "show" was considered indispensable. The symmetrical five-part house, a main block with flanking hyphens and wings, served as the heart of an important agricultural, commercial, and industrial complex, with a complementary town house in Baltimore, and another in Annapolis for seasonal use by the family. Hampton was furnished in the grand style, containing a mixture of American, European, and Asian objects.

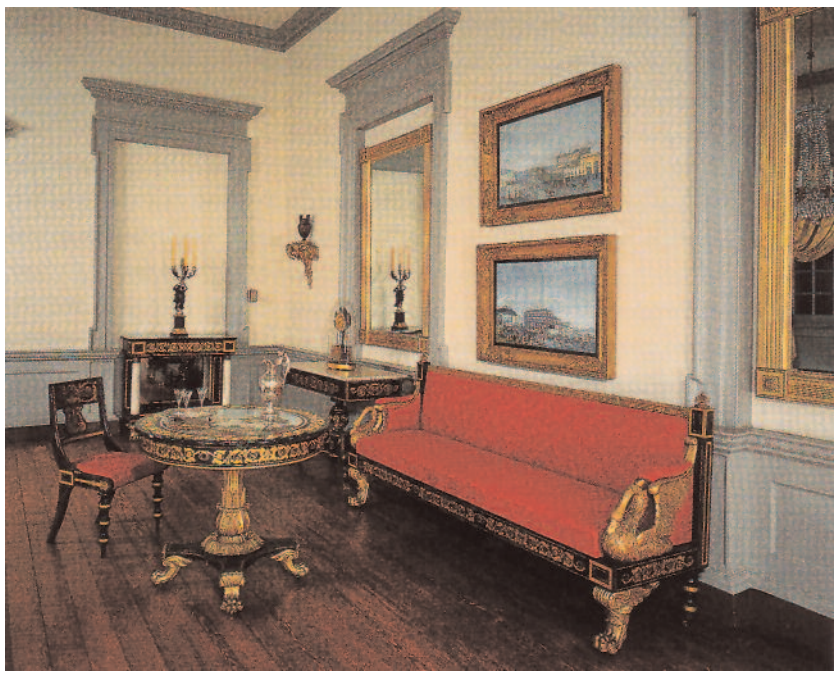

Figure 1
Drawing room, Hampton National Historic Site. Selected pieces from the suite of painted and gilded furniture ordered by John and Eliza Ridgely in 1832. The magnificent sofa with carved and gilded arm supports is unique among furniture documented to the shop of John Finlay of Baltimore and reflects both a Classical derivation and the educated, cosmopolitan taste of the Ridgelys. Featured on the center table is a French silver wine ewer with swan decoration and other Classical design motifs shared with the furniture suite.

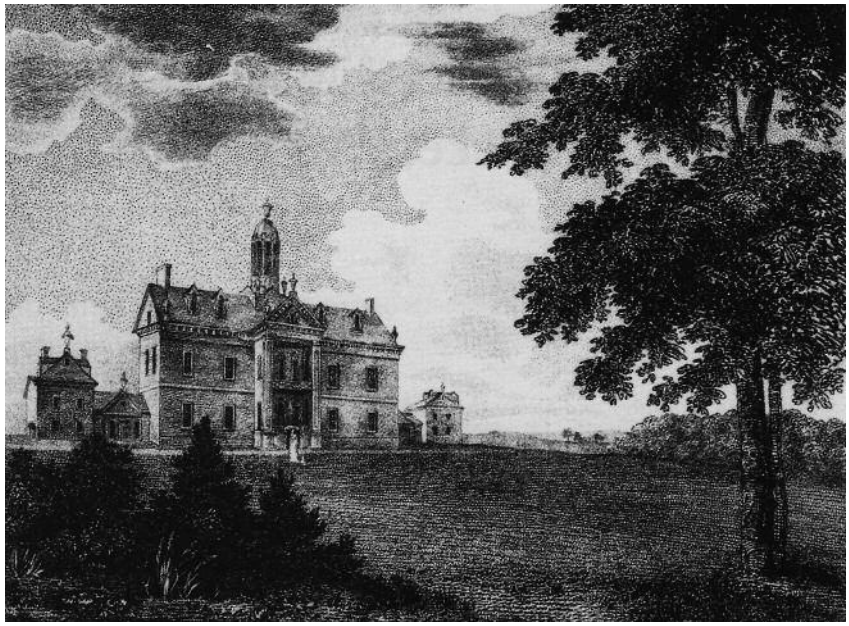

Figure 2
William Russel Birch, *Hampton the Seat of Genl. Chas. Ridgley* [*sic*], *Maryland,* 1808. Engraving of the north side of Hampton, from a painting executed by Birch during a visit in 1803. (Collection of Hampton National Historic Site, HAMP 4645.)

The Ridgelys were a prominent colonial family and part of the ruling hierarchy, but the vast fortune that made Hampton possible was primarily accumulated in the second half of the eighteenth century through industry and trade. In designing his ultimate residence, Captain Charles Ridgely (1733–90) was anxious to reaffirm both his stature and heritage. His stucco-over-stone Georgian countryseat with a dominating octagonal cupola was, prior to the Civil War, the largest house in Maryland (Fig. 2). John Carnan Ridgely (1790–1867) was the third master of Hampton, from 1829 to 1867, having inherited the Hampton estate from his father, Charles Carnan Ridgely (1760–1829).

The 1832 collaboration between Ridgelys and Finlays was the culmination of many years of commercial association, beginning in 1803, soon after the start of the Finlay business. The zenith of Hampton's fortunes, around 1800–1830, corresponded with that of the Finlays' business, resulting in the commission of a suite of furniture upon which John Finlay brought all of his shop's artistic powers to bear.

The Artists

John Finlay (1777–1851) was born in Maryland, and his career flourished between 1799 and 1840.[1] He is listed under a variety of occupations in the Baltimore city directories, beginning his career as a painter, from 1800 to 1801, and last advertised as a chairmaker, from 1835 to 1837. Finlay was also a coach painter, coach and fancy chair manufacturer, and exporter; he owned warehouses and a furniture store, residing and working mostly in the 30–34 block of North Gay Street. For almost half a century, his artistic genius and business acumen helped create a distinguished regional decorative style commonly known as "Baltimore painted furniture."

Finlay often worked in partnership with his younger brother Hugh between 1803 and 1816, with additional shops at Frederick Street, 60 North Gay Street, and elsewhere. The first known advertisement for the Finlays' partnership was in the Baltimore *Federal Gazette,* on 25 January 1803, listing:

to any pattern, all kinds of
FANCY and JAPPANED FURNITURE, viz.
Jappanned and gilt card, pier, tea, dressing, writing and
shaving TABLES, with or without views adjacent to the city.
Ditto cane seats, rush and windsor CHAIRS, with or without views.
Ditto cane seats, rush and windsor SETTEES, with or without views.
Ditto Window and Recess Seats.
Ditto Wash and Candle Stands.
Ditto Fire and Candle Screens.
Ditto with views.
Ditto Bedsteads and Bed and Window Cornices, & c.
Which they warrant equal to any imported.

The Finlays' Classical collaborations began with their successful interpretation of contemporary artistic expression, as well as capable execution of period forms and iconography, which created dynamic partnerships between themselves, other artists, and patrons. The revival of interest in Classical design forms, inspired by archaeological enthusiasm for Greek and Roman antiquities and democratic models, and fueled by reaction against Rococo excess, began with a rectilinear, refined approach known as Neoclassical, moving from Italy to France and England, and thus to America.

By the turn of the century, a more in-depth study of Greek, Roman, and Egyptian furniture forms and household decorations led to designs that more correctly reflected the archaeological evidence promoted by contemporary scholars and designers. These forms assumed greater popularity as the United States emerged as an international power. Because these elements were more directly derivative, they were thought to reflect the ancient Classical and democratic ideals most meaningful to Americans.

The Classical forms were especially popular in Baltimore, which was experiencing phenomenal growth after the American Revolution, just as the fashion emerged. Baltimore, becoming the third busiest seaport in the United States, was a trading mecca, where imports and international designs could be compared and studied. Publications featuring the Classical designs of Robert Adam, George Hepplewhite, and Thomas Shearer, among others, became available in Baltimore libraries.

The Classical style quickly found popularity among the wealthy, whose collections of silver and furniture, whether local or imported, exhibited its influence. Early Neoclassical painted furniture was a prerogative of the wealthy, being comparable in cost to the best mahogany examples. The demand for this style was partially met by English and French imports to major United States ports, reinforcing the fashion. By February 1797, a "Fancy Chairmaker from London" was advertising in the *New-York Gazette and General Advertiser* "all sorts of dyed, japanned, wangee and bamboo chairs, settees, etc. and every article in the fancy chair line" (Fales 1972:110). Thomas Jefferson introduced the style to the White House, and other examples can be documented up and down the East Coast of the United States. Nowhere in America, however, was it more widely adopted than by Baltimore's wealthy merchant class.

"Fancy" or painted and decorated furniture in the early Neoclassical style provided a light yet elegant alternative to the favored

mahogany with its rich, dark tones, particularly in drawing rooms. Thomas Sheraton extolled the beauty of decorated furniture, whether painted, gilded, or japanned. Not intended to conceal poor or mismatched woods or to be a country cousin to mahogany pieces, high style "chairs of this kind have an effect which far exceeds any conception we can have of them from an uncoloured engraving, or even of a coloured one" (Sheraton 1972:387; 192f., pl. 25). Quality, however, was a function of materials and the skill of the maker; Sheraton's *Cabinet Dictionary* (1970:427) gave specific instructions for decoration and color, admonishing, "It is to be observed, that in every kind of colour, there is some of a bad, and others of a good quality. Several colours are adulterated, either to reduce the article to a cheap price, or basely to deceive the purchaser."[2]

The Finlays were the right men in the right place at the right time. They appear to have taken almost immediate advantage of the elite's desire for painted surfaces, whether on cornices, furniture, or carriages. With the extraordinary talent of their craftsmen, they positioned themselves to meet the demand for painted furniture and, by meeting it brilliantly, created even more of a demand.

The Finlays were in the forefront of the newest fashion. In 1809, the Finlay shop produced a *haute mode* suite of thirty-six chairs, two sofas, and four settees for the drawing room of James Madison's White House, in the Classical Archaeological style. By 1810, in an effort to consolidate their leading position in the painted furniture genre, Hugh Finlay was abroad, selecting and forwarding "a number of Drawings, from furniture in the finest houses in Paris and London, which enable them [the Finlays] to make the most approved articles in their line," according to the *Baltimore American and Commercial Daily Advertiser,* 19 December 1810 (Weidman 1993:99). For more than thirty years, Marylanders' "intense and unceasing devotion to painted furniture" made Baltimore's Classical Archaeological style furniture "a highly distinct, highly important group of American cabinetmaking" (Weidman 1993:91).

Indicating a growing business on the move, an advertisement in the *Baltimore American and Commercial Daily Advertiser,* 28 October 1813 (Weidman 1993), stated that their former manufactory near Gay and Frederick Streets was five floors, each 28 ft. × 30 ft. (8.53 m × 9.14 m). In 1811, they had five apprentices; all totaled, the Finlays employed eighteen apprentices between 1799 and 1823, split evenly as chair makers and chair, coach, and sign painters (Hill 1967:63). In the second decade of the nineteenth century, the Finlays employed more than sixty-five people.[3]

On 15 July 1816, the *Baltimore American* reported that "John Finlay having declined the Fancy Furniture Business—it will be continued by HUGH FINLEY & CO." After 1816, when the Finlay partnership seems to have dissolved, John Finlay continued other businesses, including the proprietorship of the "Pavillion Baths" until at least 1841. City directories show him resuming chairmaking by 1827 and coachmaking by 1829. Upon Hugh Finlay's death, however, John again assumed control of the fancy furniture factory, with the important Ridgely commission coming soon thereafter. By the 1850 census, John Finlay owned more than fifty thousand dollars in real estate.[4] He died in a steamboat accident in 1851 (Hill 1967:257). It is interesting to note that Finlay's inventory, dated 17 June 1851, did not specifically indicate personal ownership of any painted furniture.

The Clients

Perhaps not by accident, the Finlays' activity corresponded with Charles Carnan Ridgely's already developed interest in this fashionable artistic expression. A well-educated fashion setter and dynamic political leader, he became the second owner of Hampton in 1790 and made it a showplace, surrounded by formal terraced gardens, landscaped parkland, an orangery, and propagating houses. He was said to keep "the best table in America" (Parkinson 1805:vol. 1, 73).

During a trip to New York in the fall of 1797 (Carroll 1797), Ridgely purchased a set of "24 White Japan & Gold Chairs" at 26 shillings each, for a total of £31.4.0. A matching settee cost £1.8.0 (Ridgely 1797). William Palmer (1797), who sold the set to Ridgely, advertised himself as "Japanner/No. 106 Pearl Street." The chairs may have resembled in style and decoration a set of what Sheraton termed "drawing-room chairs."[5] The Ridgely set was one of the earliest introductions of this art to Baltimore. The liberal distribution of stylish painted furniture throughout Hampton included another set of fancy chairs purchased by Ridgely between 1795 and 1800. The original number of chairs is unknown; two of the set remain at Hampton and another was owned by a descendant in 1937.[6] Charles Carnan Ridgely, the wealthiest man ever to be governor of Maryland (three terms beginning in 1815), may have helped to precipitate an enduring fashion.

Purchases of painted furnishings, in both the Neoclassical and Classical Archaeological styles, continued throughout Charles Carnan Ridgely's tenure at Hampton. In 1814 alone, he paid John and Hugh Finlay over one thousand dollars, and John Finlay an additional $106.52 (Dorsey 1814). Even the parlor of his elegant town house contained "1 Doz Green & Red chairs, 2 Green and red settees, 2 Green & gold pier tables, 2 Green & gold card tables, and 2 Green and gold lamp stands" (Baltimore City Court House 1832–33).

John Ridgely did not emulate his father's dynamic leadership qualities, but preferred instead the retired life of a country squire. On 28 January 1828, he married his second wife, Eliza Ridgely, whose influence on the interior and exterior of Hampton was profound. Eliza Ridgely was an only child, and wealthy in her own right. Very well educated—a student of French and Italian, as well as music and literature—Eliza traveled extensively, spending a considerable amount of time in France, Italy, and England. A devotee of European fashions, and friend and correspondent to the Marquis de Lafayette, she imported furnishings, paintings, and other decorative arts, and altered Hampton's gardens to the prevailing European mode.

Described by contemporaries as "fascinating," Eliza's trend-setting taste brought dramatic changes to Hampton. In addition to importing the latest furnishings and landscaping ideas, Eliza was inclined to purchase from the Finlays, as had her father. She and her husband would have selected the Finlay shop out of habit, but also because it purveyed the finest painted and gilded furnishings.

The Objects

The suite of painted furniture ordered from Finlay in 1832 was intended for the drawing room at Hampton, and survives today in that same room. Recognized as "the greatest documented suite of all Baltimore late Neoclassical furniture" (Weidman 1993:109), befitting one of the grandest

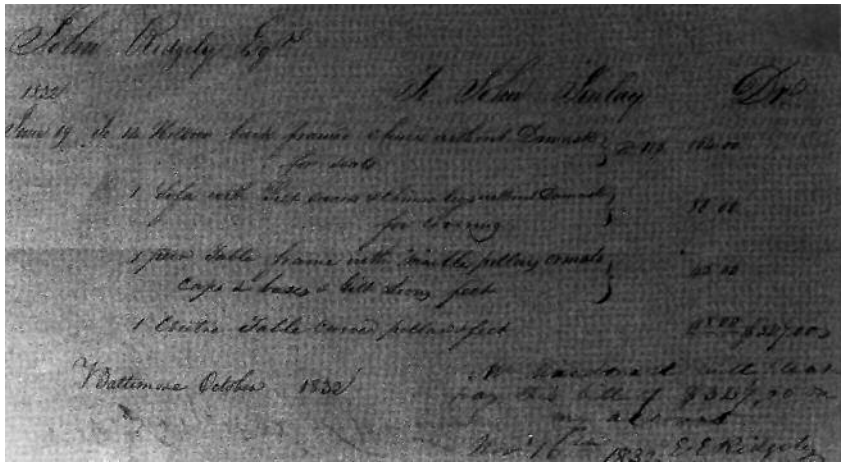

Figure 3
Handwritten bill, John Finlay to John Ridgely Esquire, October 1832, itemizing the suite of painted furniture. Note: Eliza Ridgely paid the bill from her personal account. (Private collection.)

houses in America, much of the form and decoration of individual pieces is unique. The bill of sale for this suite of furniture (Fig. 3)[7] specifies:

> 14 Hollow back framed chairs without Damask for seats
> 1 Sofa with Gilt swans and chimn legs without Damask for Covering
> 1 peir Table frame with marble pillars ormalo caps & bases & Gilt Lions feet
> 1 Centre Table with carved pillar & feet

The cost for this suite was $327, which excluded scagliola tops for the two tables.[8] The sofa alone, with its carved and gilded swans, cost $80 without upholstery. The sofa was upholstered over a spring seat, another innovation; "patent spring seat sofas and chairs" of Boston origin were being sold in Baltimore by June 1828.[9] The upholstery was of crimson silk damask, which provided a richly contrasting counterpoint to the black and gold decoration. The fabric's pattern can be seen in early house photographs. Thread fragments of this crimson hue were discovered during upholstery conservation carried out in 1993 by Mark J. Anderson, furniture conservator at the Henry Francis du Pont Winterthur Museum.

Eliza Ridgely's cosmopolitan taste combined with the talent and working knowledge of John Finlay and his staff to form the first collaboration, resulting in the manufacture of this suite of furniture. Surpassing all other contemporary Baltimore examples, the sophisticated sofa exhibits a strong French influence, which we can attribute to Eliza Ridgely's taste. A French silver wine ewer, embellished with swans and other Classical motifs found on the painted furniture, was a gift from the Marquis de Lafayette and may have been the impetus for the furniture's decoration (Fig. 4). It is interesting to note that the carved and gilded swan arm supports on the sofa are derivative of those on Josephine's couch at Malmaison, perhaps seen by Eliza during her European travels. The swan, considered "the bird of Venus" (Hope 1807:pl. 54),[10] was adopted by the Empress Josephine as her heraldic emblem. However, similar uses of swan motifs may have been adapted from well-known and repetitive design plates in such popular sources as Thomas Hope's *Household Furniture and Interior Decoration* (1807), Pierre de la Mesangère's *Collection des meubles et objets de goût* (1808:pl. 285), George Smith's *A Collection of Designs* (1808:pl. 152), and various issues of Rudolph Ackermann's *The Repository of Arts,* which would have been known to the Ridgelys and Finlays.

Figure 4
Detail of gilded stencilwork on splat of Finlay side chair shown in Figure 1, featuring swan and foliate decoration derivative of elements in contemporary design books. See, for example, plates 21 and 40 in Hope 1807.

The Finlay suite remained a feature of the most formal and important room at Hampton throughout five generations of family occupancy, with the exception of six chairs that traveled a half mile to the Hampton farmhouse in 1948, when the Ridgelys left the mansion (these were returned to Hampton's museum collection in 1980). When the Ridgelys left Hampton, they left the sofa behind. It was out of vogue and not comfortable for informal seating. Now, in a museum setting, the suite has resumed importance because it is still intact, in the setting for which it was made, and it is documented by an original bill of sale.

The Preservation Challenges

Painted black, the Hampton suite displays gilded stencils that are given expression by exceptionally fluid black brushwork (Fig. 5). The suite also has, variously, carved and gilded paw feet, swan arms, and palmette or marble columns, scagliola tops, mirrors, and bronze *vernis* mounts. As with any piece representing this genre, the appearance of the decorative surfaces is critical to the interpretation of the object. Conservation treatment that recognized the importance of these surface coatings for future research and interpretation was vitally important.

Despite only limited use by the family, constant display since 1832 accelerated deterioration of many of the pieces. Benign neglect, as fortunes waned and staffing decreased, ironically assisted in preservation during Ridgely family occupancy; housekeeping was infrequent and lax. However, by 1972, when William Voss Elder mounted the landmark *Baltimore Painted Furniture, 1800–1840* exhibition, much of Baltimore's early painted furniture was too fragile to exhibit, and "too many pieces of furniture that were considered . . . were found to have been ruined by needless overpainting" (Elder 1972:16).

A lack of environmental controls also has affected the condition of the Hampton suite. Cold and damp in the winter have been counteracted by heat, supplied first by fireplaces and Franklin stoves, later by a wood/coal-burning "central heat" forced air system, and finally by radiators, introduced around 1910, which still operate today. There is no cooling or ventilating system. Humidity levels in the house during the winter fluctuate between about 10% and 20%, and can reach 100% in the summer.

Housekeeping practices have changed over time, with some cleaning "recipes" hurting rather than helping painted objects.[11] Paint is also vulnerable to chipping and peeling from mechanical damage; vacuum

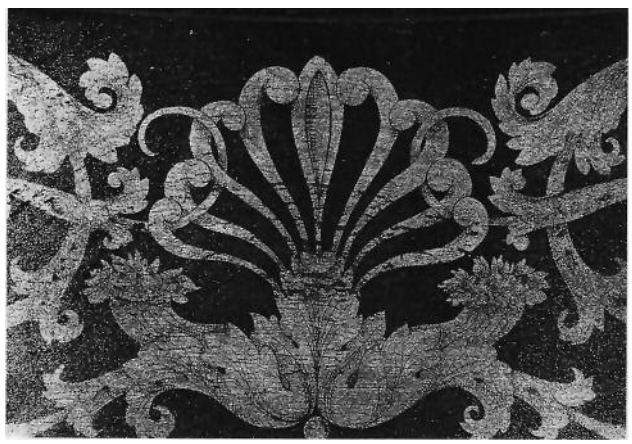

Figure 5
Detail of foliate and anthemion decoration on the crest rail of HAMP 2890, one of the fourteen side chairs made by John Finlay (1777–1851) of maple, sweetgum, and white pine, with ebonized and gilt decoration. Significant losses to the black paint surround a much better preserved oil-gilded stencil with fine brushwork detail.

cleaners with attachments, feather dusters, and "elbow grease" have contributed their share of damage to the suite of furniture.

During the present curator's first few months at Hampton in 1981—almost 150 years after manufacture of the Finlay suite—monitoring showed slow but active deterioration of surface decoration, including flaking paint and darkened gilded surfaces. Immediate efforts were made to obtain funding for conservation treatment, but monies were not available for several years. This delay proved, in one respect, to be fortuitous; in the intervening years, important information was gathered about conservation of painted wooden objects. Smaller projects served as study models for the curatorial staff at Hampton and provided the curator with questions that needed to be answered before embarking on the task of conserving the suite: What is the proper aesthetic for adequate preservation and interpretation of a painted object? When does one begin to lose sight of the original artist's materials and intent? How much restoration is too much? When does conservation become restoration? And, finally, who dictates conservation—the artist, the conservator, the scientist, the curator, the interpreter, a trustee, or the director?

Reading and studying about both traditional and modern furniture construction, decorative techniques, upholstery methods, alternative cleaning systems, and environmental impacts has assisted in the analysis of the problem: a need exists for long-term preservation of a historically important suite of furniture with elaborately painted and gilded surface coatings—and with wood, marble, metal, and scagliola components—in the context of an unstable environment.

Academic research has provided historical perspectives and has helped to relate the Ridgely suite to other Finlay work now scattered throughout the country. Recognition and appreciation of the suite's place in history—as a complete set of furniture designed by John Finlay and associates, drawn from European and Classical sources, and influenced by Ridgely preferences—helped secure funding for the latest collaborations to preserve this significant furniture group. The intrinsic and artistic importance of the suite helped to justify the cost of conservation treatment.

By 1987, it was apparent that the deterioration of the furniture was accelerating. Monitoring steps were taken, such as placing white paper under some of the pieces to check for flaking paint. The curator soon realized that the projected cost of having different firms prepare written treatment proposals and quotations would consume most of the conservation budget. Still somewhat tentative about the different treatment options available and various treatment approaches suggested, Hampton's curator contacted Donald L. Fennimore at Winterthur to discuss these concerns, particularly in light of the advances by Richard L. Wolbers and other scientists on cleaning painted surfaces.[12] The enthusiastic support of curator Don Fennimore during these difficult deliberations led to conversations with the Winterthur Museum team of experts, led by Gregory J. Landrey, furniture conservator.

Related by design to several pieces in the Winterthur collection, the documented Finlay suite at Hampton was mainly unrestored and provided a rare opportunity for complete study and analysis of original decoration and surface coatings. Hampton's curator and Winterthur's conservators developed a collaborative agreement: a team of Winterthur conservators and students would prepare the treatment proposal for the

Finlay suite, in return for retention of the findings for Winterthur's educational and research programs.

This teamwork provided Hampton with authoritative analysis and the friendly, dedicated support of Landrey; Anderson; Wendy H. Samet, paintings conservator; and others. Scientists Wolbers, Harry Alden, and Janice Carlson also contributed to the analysis. Each piece was examined by conservators with expertise in wood, surface coatings, and upholstery conservation to determine treatment procedure and cost, and to collect samples of surface coatings for microscopic analysis.

Hampton's curator and the Winterthur team had agreed from the beginning, however, that the Winterthur staff did not have time to carry out the conservation treatment; but they did agree to serve as consultants on the conservation process. Three factors created the context within which treatment would take place: (1) funds for this project were limited, and both curator and conservator were going to have to work together to "stretch" treatment dollars; (2) the curator did not want the final result to look overrestored; but (3) the curator made it clear that even though it was not her primary concern, the furniture had to look better after treatment. Curators often have to justify conservation work to their funding sources and their audience, and a better visual appearance provides helpful support. The curator also wanted the appearance to evoke pride in both patron and maker, providing a focal point for Hampton's and Baltimore's place in American furniture history. In short, we had to make the suite look better within the parameters of a safe and cost-effective treatment.

Deborah Bigelow Associates joined forces with Winterthur Museum conservation staff to prepare an acceptable treatment strategy. A grant from Preservation Maryland, through Historic Hampton, Inc., enabled the project to proceed. A precontract visit by the curator to the conservators' studio forged a mutual trust and confidence. With an innate understanding of the suite's historic significance and its physical fragility, the authors set to work on it piece by piece, beginning with a chair and working up to the great sofa. A second grant from Preservation Maryland enabled the authors to complete treatment of the suite, plus two side tables and two Grecian couches, also made by the Finlays for Hampton—all of which are exhibited in the drawing room.

One of the challenges of treating this suite of painted furniture was to keep the cost reasonable. There were considerable losses to most of the painted surfaces, and, with painting conservation as the model, the authors quickly realized that a meticulous approach to replacing the losses would require many hundred hours and add as much as ten thousand dollars to the cost of treatment for each object. As neither market value nor available funds permitted this methodology, a quicker approach was needed to achieve a stable and visually pleasing final result.

In deciding what to do, the conservation team was aided by two fortunate circumstances. First, most of the gilded stencils were in good condition, and others—although in poorer condition—still provided design definition. Second, there were few previous repairs to the surface coatings, which is a rare and very favorable situation for the conservator.

The conservators were thus able to settle upon a minimal treatment approach to stabilize the structure and surface coatings, remove unwanted previous restoration, limit inpainting and ingilding, and add a final coat of wax. Focusing on stabilization, they saved as much as possible

of the original materials; accepted signs of use (not abuse) as an inevitable, and even welcome, part of the object's history; and introduced a level of visual improvement that was pleasing to all concerned.

Given all the factors, this course of action proved that a minimal treatment can sometimes be a viable option when problems are great and funds are limited.

Examination

The most serious problem on each of the twenty-one pieces of furniture was the friable condition of the paint. Scores of black specks on the floor or on the conservator's fingertips at the gentlest touch, were clear evidence that the paint was crumbling from the surface before one's eyes. Because the paint loss did not correspond with patterns of use, and because the oil-gilded stencils were preserved, while adjacent areas of black paint were completely missing, it was hypothesized that the oil paint was originally mixed with too little binder. It was further surmised that the gilder's application of oil size over the black paint in the process of stenciling had coincidentally added binder into the minimally bound paint. Over time, this process actually saved the gilded stencils, which are the masterpieces of this suite of furniture.

The suite's painted and gilded surface was original; but black overpaint, the remains of old glue, and bronze powder paint marred the original paint in areas where structural repairs had been made, along the stile or at the join of the seat rail with the stile. While the oil-gilded carved elements initially looked to be in fairly good condition, we later realized that they had been regilded. Information provided by ultraviolet light microscopy and X-ray fluorescence analysis confirmed our visual analysis of the suite's painted surface, and our treatment proposal was based on this microscopic information, as well as on our observations and solvent tests.

Paint samples from the chairs served as a model for the suite. The original materials on the chairs fell into two categories: (1) ground preparation and paint layers, and (2) painted and gilded design layers (Table 1). The wood had been primed with a coarse gray oil paint, followed by two layers of black oil paint, and protected with two layers of oil-free varnish. Gold leaf was attached with an oil varnish, and black linework was distinctly visible on top of the gilding. The entire decorative surface was then

Table 1 Analysis of black paint with gilded stencils from one of the suite's chairs, displaying two areas of original material

Original design layers (painted/gilded)	
Layer 6	varnish (toner)
Layer 5	black paint (design line work)
Layer 4	gold leaf
Layer 3a, b, c	varnish (size)
Original ground preparation and paint	
Layer 2a, b	black paint
Layer 1	gray paint ground

protected or toned with a natural oil-free varnish. Striping on the chairs was gilded on the front and painted on the back.

Based on the information in Table 1, the surface was tested for sensitivity to water by rubbing a distilled water swab on a painted edge worn through to the wood. Since none of the layers reacted with or dissolved in water, a water-based adhesive was chosen to stabilize the paint layers.

The carved and oil-gilded wood also presented a difficult conservation problem because these surfaces had been cleverly regilded with matte gold leaf (Table 2). The authors were eager to remove it and restore the brilliant original gilding. Examination of a cross section of one surface coating (Fig. 6) indicated that the bare wood was brushed with coarse-particulate, yellow oil paint, which could be seen penetrating the wood vessels, and then with a much finer consistency of the same color paint. Finely ground oil varnish with the appearance of brown sugar had been applied next over the ground preparation as a size for the gold leaf. The size had bled into the ground coat and settled out upon drying, with finer particulate on top of coarser; but, most likely, it was applied as one coat of size. Gold leaf was applied on tacky varnish size and protected with shellac varnish, which imparted a warm, translucent appearance to the original leaf.

Table 2 Analysis of sample of carved and oil-gilded wood from the sofa's swan arms displaying two areas of original and one area of restoration surface coatings

Restoration oil gilding	
Layer 7	varnish (toner)
Layer 6	metal leaf (gold/22k)
Original oil gilding	
Layer 5	varnish (toner)
Layer 4	metal leaf (gold/22k)
Layer 3	varnish (size)
Original ground preparation	
Layer 2b	yellow ground coat (fine)
Layer 2a	yellow ground coat (coarse)
Layer 1	wood

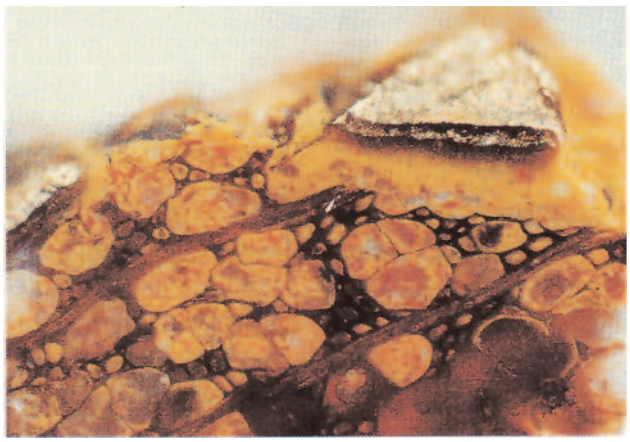

Figure 6
Cross section of gilded surface coatings on carved and gilded swan of the sofa in Figure 1, HAMP 1160. The sample indicates that the previous restoration metal leaf was applied directly on top of the original gilding layers. The sample also included part of the wood substrate.

Following X-ray fluorescence analysis,[13] which proved that the restoration gold physically matched the original, it became apparent that the restoration leaf had been applied by brushing solvent on the original shellac toner, laying the gold quickly onto the now sticky shellac, and (when dry) brushing a thin, transparent oil coating over it for protection. On the underside of the swans, a Milky Way pattern of gold particles extending beyond the desired boundary indicated the sloppy application procedure. Working directly on the old, dirty surface, and with little control over drying time, the restorer's results were now dull and coarse to the touch. Solvent tests proved that it would be difficult to remove the overgilding without removing the original shellac. Unwilling to risk this loss, the conservators elected to retain the existing oil gilding from this old restoration and clean it to a more pleasing appearance.

While the provenance of the suite was not in question, the wood was identified to provide more information about the makers' construction decisions. Two chairs were sampled in four areas, and four woods were identified: soft maple, sweetgum, and black gum on the painted units; and white pine on the seat.

Treatment

Conservation treatment spanned a two-year period between July 1989 and August 1991, progressing from groups of three, seven, and four chairs to the center table, pier table, and sofa. Hours spent conserving objects with the same surface coatings fostered a familiarity with the works that resulted in occasional adjustments to the basic treatment (described in detail in the Notes). Decision making was shared between conservator and curator. Technical problems that altered the outcome of the treatment, and thus the object's appearance, were presented to the curator for her decision; technical adjustments within a successful treatment were made in-house by the conservators.

Stabilization and cleaning

Visual and technical concerns directed the search for the best consolidant. The final surface had to look natural, without the high shine imparted by acrylic resin consolidants. Since introducing a consolidant to stabilize the paint layers would be irreversible, it was important to choose a consolidant that would not interfere with future treatments of the suite. Gelatin answered both these requirements. Soluble in water and relatively color-free, it would not stain or otherwise harm the oil-paint layers. It would be readily absorbed by the underlying wood, thus it would not hinder future treatment (Fig. 7). Excess on the surface could be cleaned without harm, and the final appearance would have a natural sheen. Local cleaning problems were handled on an ad hoc basis.[14]

Restoration

Because the suite's prerestoration appearance was a remarkably accurate reflection of the makers' intent, for ethical and financial reasons the conservators decided to add as little of their own restoration as possible. Losses were inpainted to continue straight lines or outline stencil designs only on the most visually disturbing areas.

Figure 7
Front seat rail of sofa, HAMP 1160, during conservation to stabilize painted and gilded surface coatings. Gelatin adhesive is applied through small pieces of facing tissue.

Inpainting was carried out using water-based media, which are easy to apply, distinguish, and remove from the original materials and are visually compatible with the existing surface sheen. Using water-based materials also allowed for the application of a final protective coat of wax without dissolving the inpainting or removing it during the buff-out phase of waxing.[15] Wax was used, rather than a synthetic resin, as a final protective coating because it offers good protection from moisture, is easy to care for, and lends a natural and pleasing final appearance to the furniture (see Materials and Suppliers).

This treatment discussion has been limited to the care given the painted and gilded surface coatings. But there were other materials that needed to be treated, as well; and a pleasing final appearance on each piece of furniture depended on the successful treatment of each of its parts. While the chairs and sofa had upholstery, the card table and pier table included metal, marble, and stone components in their assembly, and there was a need for visual compatibility among the elements (Fig. 8). Overshadowed by brightly polished metal mounts, or bleached-white marble columns, an old paint surface looks weary instead of mellow, and the viewer's eye—distracted by the glitter of new surfaces—struggles unsuccessfully to bring the object into focus. The conservation team was determined that this would not be the final appearance of the Hampton suite; in this regard, the treatment was highly successful.

Figure 8
Pier table, John Finlay for John and Eliza Ridgely of Hampton, 1832. H:94; W:106.8; D:45.7 cm. This extraordinary object illustrates the mixed media that had to be considered during the conservation process, including ebonized and gilded wood, mirrored glass, marble columns, bronze *vernis* mounts, and an imported scagliola top (HAMP 1167).

All of this teamwork allowed the conservators to realize their goal: a well-documented preservation treatment that stabilized original materials and left the integrity of Finlay's finishes well protected for interpretation. Working with glue and wax, the conservators hoped to prolong the furniture's life well into the future, envisioning no more danger than the touch of a thoughtless visitor or the humidity of Baltimore's summers. Imagine their astonishment when, in November 1992, a dust explosion created during a construction project engulfed the Mansion's interior. The dust, a mixture of grit and powdery sand, settled over everything. Immediate analysis by Meg Craft and Sian Jones of ACTS, Inc., verified by the National Park Service's Division of Conservation, showed the dust to have a pH level of ± 12. Seven months and five full-time cleanup people later, one happy discovery was made: the stabilization and wax coating of the Finlay suite had preserved its surfaces intact.

Conservation *is* critical to interpretation, and to the preservation and intrinsic value of this suite. As a safeguard, several pieces of painted furniture from Hampton's collection reside at another location, in climate-controlled security with up-to-date fire suppression equipment. This is as close as a conservator or curator will get to keeping the set in a dark and protected place.

Conclusion

The conservators' spirit of camaraderie and patient nurturing of the curator's technical education during the three years of conservation, coupled with the curator's intense academic interest and decision-making authority in the treatment process, epitomized the ideal working collaboration. There was always a committed team effort to control the degradation and minimize the impact of climatic elements by protecting the surface decorations. During the multiyear process, the professional circle was regularly enlarged to include consultation with Winterthur staff and other colleagues. Curators, including Wendy Cooper, who used the Finlay sofa as a focal point in the influential *Classical Taste in America, 1800–1840* exhibition,[16] and Gregory Weidman, a leading authority on the Finlays' work, enhanced the conservation perspective. Mark Anderson designed noninvasive upholstery techniques for the sofa and one chair and worked with an independent upholsterer to achieve laudable results. The suite, which originally sold in 1832 for $327 and was purchased in 1948 for the National Park Service at less than $1,500, was preserved at a cost many times that amount. However, this cost was modest in relation to the importance of the objects and their final, stable appearance. The value of this set both to Hampton and to general scholarship is incalculable.

Hampton is a national park, open seven days a week, beset by fluctuating temperatures, immoderate winter dryness, and stifling summer humidity. Light, dust, pollution, and human interaction also contribute to the concern for these objects; the goal has been to minimize the impact of all these factors. The hope is that the current conservation work will be almost invisible fifty years from now, during the suite's bicentennial, and that it will have provided maximum benefit with minimum detriment to the next collaboration in this Classical story.

Notes

1 The authors are grateful to William Voss Elder III and Gregory R. Weidman for many of the references about the Finlays. For additional information, see Elder 1972, Weidman 1984, and Weidman 1993.

2 A full discussion of colors and techniques may be found in Sheraton (1970:422–28).

3 From the 1820 Census of Manufactures. See Weidman (1984:75) for a breakdown of these workers.

4 Baltimore, Maryland; 10th Ward, 076.

5 For example, no. 60.331 at Winterthur, made in Philadelphia ca. 1800; shown in Montgomery (1966:pl. 92). See also Chris Shelton's chapter herein.

6 Chair no. 278, as seen in Miller (1937:vol. 1, 205).

7 Bill is owned privately; archival copy retained in the research files, Hampton National Historical Society.

8 The tabletops were imported from Italy, decorated in scagliola with polychromed landscape scenes and ornate oak leaf borders, in the manner of Claude-Joseph Vernet.

9 From the 5 June 1828 edition of the *Baltimore American,* as quoted in Weidman 1984.

10 See also plates 21 and 40(2), in Hope 1807. For an excellent, detailed discussion of swan symbolism and its links to both Apollo and Venus, see Cooper (1993:144–49).

11 The accumulation of dirt on fine furniture has been a housekeeping concern for centuries. Catherine E. Beecher, in *A Treatise on Domestic Economy* (1841:343–44), suggests removing it by rubbing on sweet oil and then wiping it off "thoroughly with a silk or linen rag," or by rubbing in linseed oil, or by applying a mixture of "beeswax in spirits of turpentine, adding a little rosin. Apply with a sponge, and wipe off with a linen rag." Thomas Sheraton's *Cabinet Dictionary* (1970:290) suggests "a ball of wax and a brush." Often these applications actually attracted additional dirt. Robert Roberts, in his 1827 *House Servant's Directory,* discusses japanned articles, directing that one "take a sponge and dip it in warm water, rub on a little soap, and wash . . . with this; wipe it dry, and if it looks smeary, dust a little flour over it, and polish off with a dry cloth" (Roberts 1977). Modern recipes and commercial products may also be detrimental.

12 See, for example, Wolbers and Landrey 1987 and Wolbers 1990.

13 Janice H. Carlson, a senior scientist at the Winterthur Museum, examined one carved and oil-gilded paw foot from the sofa to determine metal composition of the gold leaf. She also compared the original with the restoration leaf, performing qualitative energy-dispersive X-ray fluorescence analysis, using several different systems (Cd-109 source, Am-241 source, Ag secondary target, and Gd secondary target). She found that both original and restoration gold leaf had concentrations of gold and silver similar to a 22k reference standard, 79.22.3 (91.7% Au, 4.1% Cu, and 4.1% Ag).

14 Warm gelatin (5% in distilled water) was brushed onto small sections of paint and covered with facing tissue, placed smooth side down. Saturated with gelatin, the tissue paper was then pressed flat using a cool tacking iron and silicone-coated polyester film. Twenty-four hours later, the dry glue-hardened tissue and the excess gelatin were removed using distilled water at room temperature.

After stabilization, color was restored on small areas of blanched varnish with a solvent blend of ethanol, acetone, dimethylformamide, and Cellosolve (1:1:1:7), applied sparingly by brush.

Local cleaning problems were treated, as needed, with benzine emulsion, xylene gel, or acetone gel, and a water-based "stock" gel. Small areas of very dark varnish were gradually reduced to the desired appearance with ethanol or acetone swabs, Triton X100 (10% in xylene), or 1-methyl-2-pyrrolidinone (25% in mineral spirits).

The formulations are as follows:

Benzine emulsion: distilled water (20 ml), benzine (50 ml), and enough Triton X100 to make a stable emulsion

Xylene gel: xylene (200 ml), distilled water (4 ml), Ethomeen C12 (30 ml), and Carbopol 954 (4 g)

Acetone gel: acetone (200 ml), distilled water (200 ml), Ethomeen C25 (20 ml), and Carbopol 954 (6 g)

"Stock" water-based gel: Tris/Tris-HCl buffer reagent, pH 8.4 (0.664 g); hydroxypropylmethyl cellulose (1.5 g); Triton X100 (0.1 g), and distilled water (100 g)

15 Raw wood was sealed with a blend of equal amounts of glossy and matte Soluvar varnish. Winsor and Newton gouache and watercolor paints, mixed with gum arabic and Kodak Photo-flo 200 solution, were applied, allowed to dry, and buffed to a sheen compatible with the final appearance.

Before ingilding, areas were isolated with the same Soluvar varnish mixture and sized with three-hour oil size, or twelve-hour oil size when a more durable surface was needed to withstand the patination process. Twenty-two karat gold powder and gold leaf were used for small and large repairs, respectively. Gold powder repairs were toned with watercolors and gouache colors mixed with small amounts of 22 karat gold powder, gum arabic, and Photo-flo 200 solution. The dry surface was then polished with surgical cotton. Gold leaf repairs were patinated with matte varnish to dull the surface and were toned by alternating layers of watercolors, Soluvar varnish colored with Maimeri Restoration Colors, and 22 karat gold powder.

The varnish was a blend of glossy and matte—2:1 for a shinier appearance or 1:2 for a duller appearance. Linework was replicated with Higgins nonwaterproof black India ink.

Renaissance Wax was applied to each piece of furniture by hand and buffed with a soft flannel cloth.

16 For an in-depth discussion related to the Finlay suite, see Cooper 1993.

Materials and Suppliers

August Ruhl 22 karat gold leaf and powder, Sepp Leaf Products, 381 Park Avenue South, Suite 1312, New York, NY 10016.

Carbopol 954, B. F. Goodrich, Research and Development, 9921 Brecksville Road, Cleveland, OH 44101.

Cellosolve, Fisher Scientific Co., P.O. Box 12405, St. Louis, MO 63132.

Ethomeen C12 and C25, Conservation Materials Ltd., 100 Standing Rock Circle, Reno, NV 89511.

Gelatin glue size, Sepp Leaf Products.

Higgins nonwaterproof drawing ink, Pearl Paint Co., 308 Canal St., New York, NY 10013.

Hydroxypropylmethylcellulose, Sigma Chemical Co., P.O. Box 14508, St. Louis, MO 63178.

Kodak Photo-flo 200 solution (CAT 146 4502), Eastman Kodak Company, 1205 Scottsville Rd., Rochester, NY 14650.

LeFranc 3-hour and 12-hour gilding size, Sepp Leaf Products.

Maimeri Restoration Colors, Conservation Materials Ltd.

Maypon 4C, Inolex Chemical Company, Swanson and Jackson Streets, Philadelphia, PA 19148.

Renaissance Wax, Conservation Materials Ltd.

Soluvar varnish, Conservation Materials Ltd.

Trizma-8.4 (Tris/Tris-HCl buffer reagent, pH 8.4), Sigma Chemical Co.

Triton X100, Sigma Chemical Co.

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Applied Aesthetics: Restoring the Original Cornice Decoration at Olana

Deborah S. Gordon

During the mid–nineteenth century, the artist Frederic Edwin Church (1825–1900) was celebrated as the outstanding landscape painter of his day. As the popularity of his Romantic style waned and his health deteriorated, he increasingly turned his attention and his artistic energies to the creation of his estate, which he called Olana, located on the Hudson River just south of Hudson, New York. Although Church had the help of an architect, Calvert Vaux, in preparing drawings for his new house, it appears that Church made most of the aesthetic decisions, while Vaux engineered the structure. A rendering by Vaux (Fig. 1) dated 28 May 1870, resembles the home only in its fanciful medievalism. During a trip to Europe and the Middle East in the late 1860s, Church developed an admiration for Islamic domestic architecture, and this had a profound influence on both the spatial organization and the decoration of Olana. Church's direct involvement in every aesthetic choice is evident in his three hundred to four hundred architectural sketches that have survived in the site's archives.

The exterior of the home is stone combined with elaborately patterned brickwork, further enlivened with polychromed tiles and Gothic

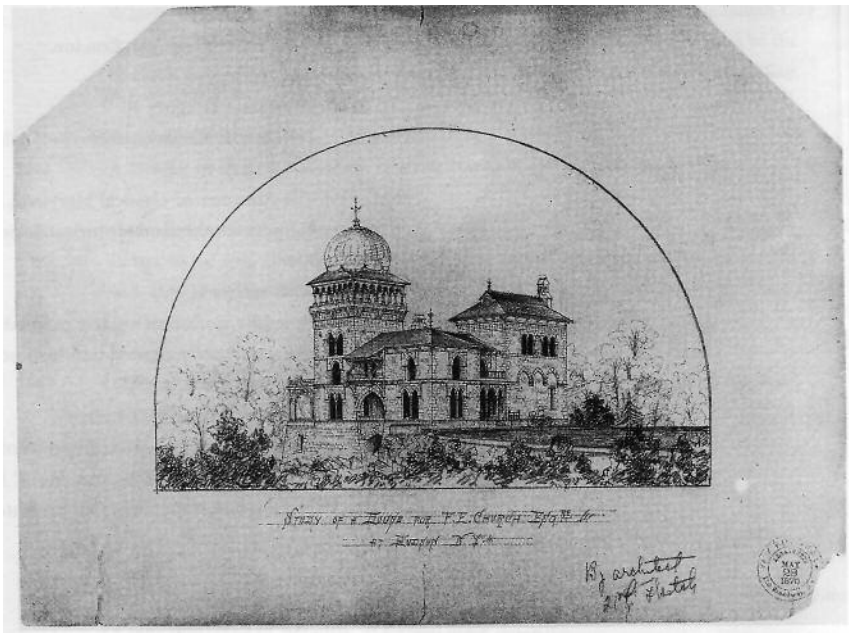

Figure 1
Calvert Vaux, *Study of a House for F. E. Church Esq're at Hudson N.Y.* Pencil, H:25.4 cm, W:34.3 cm. New York State Office of Parks, Recreation and Historic Preservation, Olana State Historic Site, Hudson, N.Y. (OL.1982.1107)

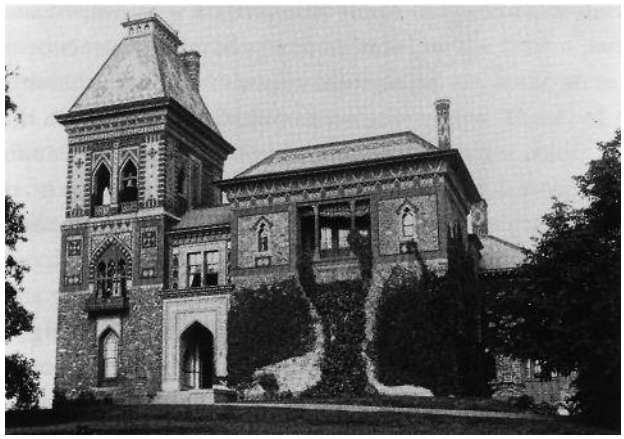

Figure 2
James Harvey Van Gelder, photograph of the east elevation of Olana, ca. 1900. Vedder Memorial Library, Greene County Historical Society, Coxsackie, N.Y.

woodwork. To crown this collage, the irregularly massed structure had five separate wooden cornices, each painted and gilded in different patterns and colors (Fig. 2).

Construction on the house began in late 1870; the work, including the decoration, continued at least through 1876. Olana remained in the Church family until its acquisition by New York State in 1966. Since then, there has rarely ceased to be some type of restoration activity going on at Olana in an effort to return the house and grounds to their appearance during the last decade of Frederic Church's life. Several years ago, the New York State Bureau of Historic Sites (BHS) decided to turn its attention to one of the most significant as-yet-unrestored features of the building: its cornices. The decoration, originally accomplished roughly between 1872 and 1876, was maintained over the years until 1955, when Church's daughter-in-law was advised by the caretaker of the estate to paint the cornices a solid color, rather than incur the expense of restenciling.

The decision to restore the cornices was easy; the degree of weathering they had sustained suggested that if something was not done quickly, significant portions of the evidence would be lost. Roughly 20% of the original paint was already lost, and the remainder was in fair to poor condition. The decision to repaint (rather than remove the overpaint to reveal the original stenciling) was made—as many decisions concerning architectural paints are—for practical as well as aesthetic reasons. Exterior paint films, however decorative, are generally considered sacrificial. When subjected to the effects of weathering, a paint film will gradually deteriorate until it can no longer meet its protective or aesthetic function. Even if it were physically possible and financially feasible to reveal the original decoration, a weak and discolored paint film would be exposed.

The decision as to how to restore the cornices was considerably more involved. An interdisciplinary group consisting of site staff, BHS building conservation staff, and management met to discuss options.

Research Methodology

The first need was to identify who would do the research. Because the state's conservation staff was already committed to other projects, the option of contracting with an outside architectural conservator was considered. This would have been expensive but would have had the advantage of getting the research done in one major effort, something that can

rarely be managed with limited site staff. In the end, however, the decision was made to phase the project over several years and to use the BHS architectural conservation staff, thereby capitalizing on the considerable expertise on painted finishes at Olana that has been developed over the years.

Next various possible approaches to accomplishing the research were considered. The position of the cornices—6–15 m above the ground—and the condition of their painted surfaces suggested that it would be virtually impossible to identify the stencil patterns and colors by sampling in the traditional way and examining the samples under a microscope in a lab. A more promising way to proceed seemed to be in situ examination with a field microscope, which would allow the researchers to locate and outline boundaries between fields of color. This also proved unworkable, however, for a variety of reasons. The paint films, particularly the stenciled elements, were so thin and worn that the field microscopes were simply not powerful enough to distinguish between successive layers of paint. Furthermore, the unfavorable physical conditions—the slightly swaying scaffold, inadequate light, working above one's head, and so on—precluded the most thorough examination. The most satisfactory solution seemed to be to remove one large section of each cornice (containing one full repeat) and take them to the laboratory, where they could be put under the microscope for examination, inch by inch, if necessary.

Conservation of Existing Evidence

The other serious problem was how to preserve the existing paint and at the same time provide a sound and reasonably smooth substrate on which to reproduce the overpainted stenciling. About 30% of the existing paint required consolidation before it could be painted over. Sanding to achieve a smooth surface was undesirable because important paint evidence would be lost in the process. Some kind of filler would have been needed to smooth over the alligatored surface, and a filler has not been found that performs satisfactorily in an exterior location. Furthermore, although an isolating layer is used in conservation practice to ensure reversibility before overpaint is applied to an original surface, it was felt that an isolating layer in an exterior location would act as a moisture barrier and very likely result in more damage than protection by preventing the materials from "breathing." It seemed that the most secure way of preserving original paint was to remove representative sections of each cornice and keep them in a protected environment. This would permit the preparation of each cornice for repainting (in the same way that other exterior woodwork would be prepared) when the time came to restore the cornice decoration.

Because this approach met both research and conservation needs, sections measuring 1.22–1.83 m (4–6 ft.), from each of the five cornices, were removed and replaced with new wood, which was painted with the same brown paint found elsewhere on the cornices. The removed pieces were reassembled in their original configurations on specially fabricated skeletal frames and were stored in the attic of the house, along with other historic collections.

Archival Evidence

Before discussing the examination of the paint on the cornices, it is important to mention that there were other avenues of research available. The collection at Olana contains many of Church's sketches for the cornice decoration, many in oil or watercolor. These can be attributed to one cor-

nice or another, based on the shape of the cornice itself and on "ghosts" of the original decoration visible below the brown paint. The archive also contains dozens of the stencils themselves; some were used for the original decoration, some for later restencilings. These, of course, offer the clearest information about patterns and paint colors. The archive also contains pounce patterns (full-scale perforated drawings used for transferring some of the larger or more complicated designs to the cornices), where the designs were painted in by hand.

There are also references to the decoration and maintenance of the house in surviving correspondence between Church and various family members and friends. Although most of these references are somewhat vague, they do give a sense of the pace at which these activities were accomplished, and of Church's attitudes. For example, in a letter to Martin Johnson Heade dated 22 September 1885, Church wrote:

> I undertook to make thorough repairs of my House—nothing of importance in that way having been done since it was built 13 years ago—also some additions and the completion of unfinished parts. . . . I dare not leave home for a day because the workmen call upon me hourly for special directions—I have to superintend the mixing of tints for the painters and make working drawings for the carpenters—&c—

A year later (20 June 1886), Church wrote to his friend Erastus Dow Palmer: "I have a painter at work going over the worn places on the exterior of the House and expect to commence on interior decoration to morrow."

For a researcher, the archive is a rich source of primary materials, but it is incomplete. Some cornices are amply documented with sketches, stencils, and pounce patterns; some have very little. Even if the record were more complete, the archival evidence is insufficient. Church's sketches, while they have proved to be invaluable for deciphering certain of the more elusive aspects of the physical evidence, still are only sketches and do not necessarily represent the finished product accurately (Fig. 3). Research on two cornices has shown small variations in design and placement of elements, and some alterations in palette between the sketches and the final work. For one of the as-yet-unresearched cornices, there are several sketches, which show roughly the same patterns but very different color schemes.

Some research had already been done on the stencil collection, which had a direct impact on the work. A report by Van Dolsen (1983)

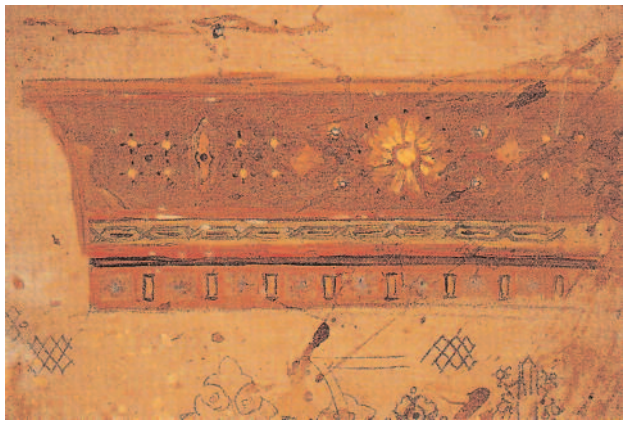

Figure 3
Frederic E. Church, oil sketch for stencil decoration of the stairhall cornice. New York State Office of Parks, Recreation and Historic Preservation, Olana State Historic Site. (OL.1982.753)

suggests that the cornices were first decorated in the mid-1870s, then restenciled by Frederic Church in the late 1880s. (In keeping with the general policy for interpretation and restoration at the site, which focuses on the last decade of the nineteenth century, this later stenciling would be restored.) Identification of a second stenciling was based on the discovery in the collection of a stencil that the author noticed had been cut from a calendar (Fig. 4). The vertically arranged numbers at the right were interpreted as indicating that the calendar was from the year 1888. This provided evidence that the cornices were probably repainted around this time.

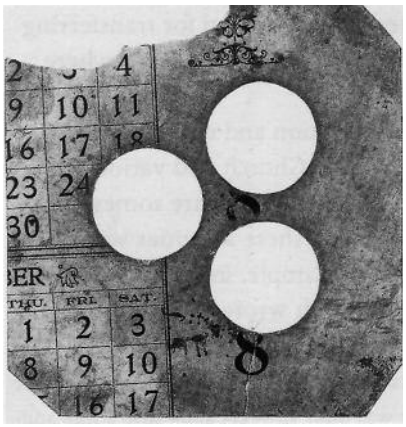

Figure 4
Stencil cut from a calendar. New York State Office of Parks, Recreation and Historic Preservation, Olana State Historic Site. (OL.1982.1299)

One interesting and humbling aspect of doing this type of research is the realization that the same evidence can support very different conclusions. As part of this project, the previous research was reexamined. A closer look at the stencil cut from a calendar and a consultation with a perpetual calendar[1] showed that the interpretation of this as an 1888 calendar was inaccurate. Because of the particular arrangements of days and months, it could not be from 1888. In addition, evidence was found in Church's correspondence, noted earlier, suggesting that his approach to maintenance was rather sporadic, that he touched things up only when and where he perceived the need. Consequently, it seemed unlikely that the cornices were systematically restenciled, top to bottom, in a single effort.

The report also stated that the stencils could be divided into two groups based on the weight of the paper from which they were cut. Although there is a great deal of variety in the papers used, suggesting that the stencils were made from whatever discarded paper was on hand at the moment, the report noted that there seemed to be two distinctly different weights of paper. The lighter papers are roughly the weight of construction paper. The heavier papers are approximately the weight of the paper used to make manila file folders. The author speculates—and so far, paint analysis has confirmed—that the stencils cut from the lighter weight papers were used in the original decoration of the cornices, whereas those cut from the heavier papers were used in later restencilings.

In addition to this distinction, it has been noticed that, although the number of tack holes in the stencils indicates that they were used many times, those cut from the lighter paper show less accumulation of paint. This suggests that they were used by a highly skilled stencil artist who employed a dry brush and a light touch. The heavier weight stencils, by contrast, show a significant paint buildup, and in some cases one can even see brush marks in the paint. These were apparently used by a less skilled artist, and it explains the need to have the stencils cut from a heavier grade paper. These observations, while they do not specifically help date the stencils, do suggest that the later stenciling work was of lesser quality.

Results of Paint Analysis

One important benefit of the decision to remove sections of each cornice for research and conservation was that it was possible to X-ray them at the author's conservation facility (Fig. 5). These X rays enormously simplified the task of locating the various elements of the design; however, in the process of microscopic analysis, unexpected stenciled elements were occasionally discovered on the cornice that were not noticed on the X ray.

The results of the physical examination thus far (two of the five cornices have been analyzed) indicate that most elements were painted three times before the 1962 overpainting of the cornice decoration. In the

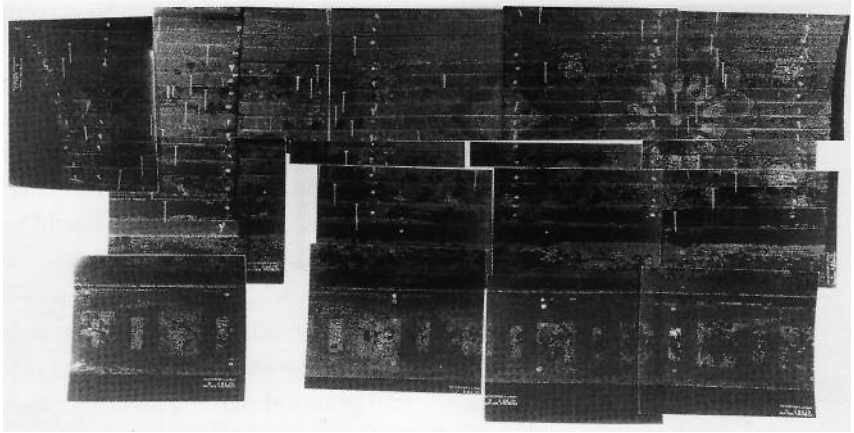

Figure 5
X-ray mosaic of the removed section of the stairhall cornice. New York State Office of Parks, Recreation and Historic Preservation, Bureau of Historic Sites, Waterford, N.Y.

most exposed areas—the lowest boards—an additional layer or two of paint are sometimes found; in protected areas, there are occasionally fewer. This means that they were painted on an average of every twenty-five to thirty years. However, the physical evidence concurs with the documentary evidence in suggesting that the repainting did not take place in distinct campaigns. A comparison of chromochronologies of different elements shows that a paint that appears as the second finish layer in one place may be the third finish layer in another, et cetera. This, in turn, suggests that, while the colors and patterns on the cornices may have been altered over the years, it is unlikely that there was ever a second (or third) consciously developed design that superseded the original one. Since there was no way of knowing exactly when any of the "touching up" was done, or whether it was done by Frederic Church or his son Louis (who inherited the house on his father's death), it was ultimately decided that it was more appropriate to restore the original decoration. In this way, the conservators could be sure that they were restoring the artist's intent; they felt reasonably comfortable that that intent had not changed over the last decades of the artist's life.

As is frequently the case with architectural paints, analysis of the composition of the paints was done only where necessary to reconstruct original colors. Paints used in architectural restorations are usually chosen based on practical considerations (durability, color retention) and general aesthetic qualities (gloss, texture). Rarely does a restoration of architectural paint involve duplicating an original paint exactly. Lead testing did show that the original paints all included some lead, except where the darkness or saturation of the color precluded it. Pigment analysis was done to determine whether a blue paint found at the bottom of one cornice, the area least protected by the roof and hence badly weathered, was in fact the same paint as a darker blue that appeared in a more protected location on the same cornice. This proved to be the case.

Paint analysis also revealed an interesting difference between the techniques used by the original stencil artist and those of later artists. Where one design element was made up of several stencils, using different colors, the original artist frequently applied those colors contiguously, like areas of color in a mosaic, rather than one on top of another—which is how the later artists chose to apply their paints. Presumably the reason for the former was to minimize the buildup of paint. As it turned out, the original artist's concern was a valid one: the areas of greatest paint loss on the cornices are those specific areas where there is built-up decoration.

Restoration

Given the method chosen to accomplish the research (that is, for the author and coworkers to do it themselves over a period of years), it made sense to train staff painters to do the decorative work, as well. Because of the distance from which the cornices are viewed, precise craftsmanship was less of an issue than it would be, say, on the interior, where the stenciling is at eye level. Therefore, this was a good opportunity for on-the-job training. Additionally, staff would be able to perform whatever maintenance was required in the future.

The question of materials was more complicated. As indicated earlier, the original paints were largely lead-based, and the conservators were prepared to use lead-based oil paints to restore the cornices if they met practical needs. However, modern coatings were also considered in the process of determining what type of paint would be most durable and provide the most permanence of color. A number of paint chemists were consulted—some associated with commercial paint manufacturers. All agreed that the best paint to meet both criteria would be a top quality, commercially available acrylic house paint. On this unanimous recommendation, an acrylic system was chosen. To confirm its effectiveness, a test panel was created in an exposed but inconspicuous spot. Three systems are currently being tested side by side: a homemade, lead-in-oil system; a commercial alkyd-based system; and the acrylic system. This will allow monitoring of their performance relative to one another, and any future approaches to the treatment of the cornices may be modified according to the test results.

Conclusion

To date, one large but relatively modestly decorated cornice, that of the service wing of Olana, has been restored. Research has been completed on a second cornice, called the *stairhall* cornice (Fig. 6), which is small but richly painted and gilded. It is scheduled to be restored in the fall of 1995.

Although the research on the cornices is far from complete, and it is premature to draw conclusions, some interesting information has come to light about Church's aesthetic vision. The architectural woodwork below the cornice level is painted largely in the colors of the masonry units: brick red and brick yellow, a terra-cotta color, a brown-black (as some of the bricks are painted), and a tan color similar to that of the stonework. These earthy colors are not unusual for houses of this period, and, indeed, they

Figure 6
Decorative scheme to be restored to the stairhall cornice, CAD-generated drawing (colors are approximate due to the limited number of colors available on the ink-jet plotter). New York State Office of Parks, Recreation and Historic Preservation, Bureau of Historic Sites.

Figure 7
Frederic E. Church, *Cotopaxi,* 1862. Oil on canvas, 121.9 cm × 215.9 cm. Detroit Institute of Arts.

appear on the cornices as well. However, on the cornices they are combined with and visually eclipsed by a range of highly saturated primary and secondary colors—orange and red-orange, clear blues and greens—which were unheard of for architectural decoration at that time and were even outside the varied and idiosyncratic color palette that Church used on the interior of the mansion. For color schemes similar to those chosen for the cornices, one must look to Church's work on canvas. The dramatic and richly conceived palettes of sunrises and sunsets—*Twilight in the Wilderness* or *Cotopaxi* (Fig. 7), for example—are not unlike those used on the cornices, although the formal aspects of these paintings and the cornice decoration could hardly be more different. Perhaps Church intended the cornices to reflect and, in their own way, respond to the magnificent celestial displays that nature produced all around his hilltop home.

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Note

1 A perpetual calendar is a reference table that can be used to determine the day of the week on which any given date falls.

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