

Reproductions for Hamilton Grange: What Legs Do We Have to Stand on

ABSTRACT—A suite of seating furniture, owned by Alexander Hamilton and attributed to Adam Hains and George Bertault, was conserved and partly reproduced as part of two contracts for Hamilton Grange National Memorial, awarded to the private firm of Fallon & Wilkinson, LLC. The first part of this paper focuses on the reproduction challenges of the suite of side chairs, armchairs, and sofa. The second part discusses conservation of the suite including research of construction and decorative features as well as upholstery. Evidence of original under upholstery and show covers is presented and compared to similar suites in other collections.

1. INTRODUCTION

In early May 2010, Fallon & Wilkinson, LLC was awarded a contract to reproduce twenty eight pieces of Federal furniture for Hamilton Grange National Memorial (HAGR), the New York City country estate of Alexander Hamilton. Shortly thereafter, the company was awarded an additional contract to conserve a set of five chairs. This set was also part of the group of original pieces of furniture that needed to be reproduced.

This paper discusses the development of the project from photographs to actual reproductions, and how the authors' examination of the pieces for conservation helped the curator advocate successfully for additional funding and more accurate reproductions.

1.1 ALEXANDER HAMILTON

Alexander Hamilton is one of the founding fathers of the United States. He was born of an illegitimate union probably in the year 1755, in the Caribbean. He was largely self-taught, but rose quickly through the Revolutionary War to become a member of the constitutional convention, head of the Federalist Party, and the first Treasury Secretary. He had a turbulent life from his harsh upbringing, military career, clashes with other founding fathers, illicit romances, and finally to his death in 1804 in a duel with Aaron Burr, at only 49 years old.

1.2 HAMILTON GRANGE

Although Hamilton lived in many places, Hamilton Grange (fig. 1) is believed to be the only home he owned; all others were rented. Hamilton built the Grange in 1801–02, as a Federal style country house about two years before his untimely death.

The house was originally located on a wooded thirty-two-acre property in northern Manhattan. Prominent architect John McComb Jr. designed and constructed the Grange. It

was an impressive building with two stories, a front entry portico, rear portico, and side piazzas that were detailed with columns and roof balustrades. The two largest interior spaces on the first floor, the parlor and the dining room, were octagonal in shape.

Following Alexander Hamilton's sudden death in 1804, his wife, Elizabeth Schuyler Hamilton, continued to own Hamilton Grange, although she did not live there fulltime. She sold the house in 1833.

During the mid- to late-19th century, it was occupied by several different owners. In 1889, the Grange was given to St. Luke's Episcopal Church by a developer who moved it to a new site on Convent Avenue, between 141st and 142nd Streets,



Fig. 1. Hamilton Grange; perspective view of south (front) and east side drawing by O.H.F. Langmann (location of original unknown), before the 1889 move. (HABS NY-6335-3, <http://memory.loc.gov/pnp/habshaer/ny/ny1700/ny1721/photos/119292pv.jpg>)

100 yards to the southeast. Several changes were made to the front of the building at the time.

St. Luke's Church in turn sold Hamilton Grange to the American Scenic and Historic Preservation Society in 1924, which maintained and operated it as a house museum. Hamilton Grange was designated a National Historic Landmark in 1960 and a National Memorial in 1962. That same year, it was acquired by the National Park Service (NPS).

Hamilton Grange was moved a second time in 2008, one block over within St. Nicholas Park. The move was part of an NPS general management plan for the building's restoration. After the move was completed, the restoration of the exterior and interior began.

The front façade, which was altered during the first move, was restored by reinstalling the front to its original location and rebuilding the removed front porch. The previous interior alterations to the stair hall, parlor, and dining room are currently being restored to their original configurations. An exhibition plan for Hamilton Grange was developed, which included the installation of interpretive exhibits and historic furnishings.

1.3 INTERPRETATION OF THE HOUSE

Unfortunately, it has proven to be very hard for the museum's interpreters to determine what pieces were used originally at the Grange. The period of interpretation is very short: only from 1802 to 1804. This is the period from Hamilton's first occupation of the house to Hamilton's death. Although there are quite a few pieces of furniture documented to have been owned by Hamilton, the lack of an estate inventory, and the family's occupation of multiple homes at the same time, has made it impossible to verify the original location of the furniture at a certain moment in time.

Hamilton's cash book suggests that the original furnishings for Hamilton Grange were likely a combination of earlier family objects and newly acquired pieces. Among the newly acquired pieces were probably a set of William Palmer painted chairs, and possibly a cylinder desk and traveling desk for the study. The parlor's Louis XVI suite of furniture was certainly purchased for the Hamilton's residence in Philadelphia, sometime after 1790.

2. REPRODUCTION CONTRACT

Most of the furniture to be reproduced (fig. 2) was known to have been in Hamilton's possession. Only the sideboard was not documented to have been owned by Hamilton. Rather, it was deemed appropriate for the period and status of the house and owner. All pieces were reproduced from actual period pieces of furniture. The side and armchairs of the Hains group of furniture were the only pieces still in the collection of Hamilton Grange; all other pieces had been dispersed to various collections (table 1).

The reproduction pieces were intended for the newly interpreted rooms on the ground floor.



Fig. 2. Clockwise: side table, shield back chair, Louis XVI sofa, Louis XVI armchairs, sideboard, writing desk, and cylinder desk.

For the parlor

- 3 Louis XVI armchairs
- 2 Louis XVI side chairs
- 1 Louis XVI sofa

For the hall

- 2 Federal side tables

For the study

- 2 writing desks
- 1 Federal cylinder desk

For the dining room

- 14 shield back side chairs
- 2 matching shield back armchairs
- 1 Federal New York sideboard

When bidding on the contracts, Fallon & Wilkinson, LLC had only seen the objects in photographs with no background information, except for a date and a short description of 10–20 words. After having been awarded both contracts, the authors were provided with the 2010 Hamilton Grange Furnishings Plan (Waite 2010), in which mention is made of the cabinet-maker and upholsterer of the Louis XVI set, similar chairs in other collections, among other information about Alexander Hamilton's purchases, and the context and style of his home, Hamilton Grange. This furnishings plan was an updated version of the 1986 furnishings plan.

Table 1. Overview of Furniture to be Reproduced for Hamilton Grange, Under This Contract

| No. of Objects | Object | Material | Source | Proposed Location | Provenance | Discoveries/ Alterations |
|----------------|--|---|---|-------------------|---|--|
| 3 | Armchairs, Louis XVI style, 1790–1795 | Mahogany green silk | Hamilton Grange, catalog HAGR 84 or HAGR 85 | Parlor | Owned by Hamilton, poss. used at HAGR later; still in collection | Upholstery incorrect; needs: -Less loft, crisper edges -large pattern silk damask -closed brass nailing -additional trim |
| 2 | Side chairs, Louis XVI style, 1790–1795 | Mahogany green silk | Hamilton Grange, catalog HAGR 86, HAGR 87, or HAGR 88 | Parlor | Owned by Hamilton, poss. used at HAGR later; still in collection | See armchairs |
| 1 | Sofa, Louis XVI style, 1790–1795 | Mahogany green silk | MCNY, accession no. 71.31.16 | Parlor | Owned by Hamilton, poss. used later at HAGR; donated to MCNY by great-grandson | See armchairs; design one sofa out of two: -top of MCNY sofa (has altered base) -base of the HNE sofa |
| 2 | Side tables, pair ca. 1800 | Mahogany with satinwood inlay | SI, catalog no. 14475 | Hall | Owned by Hamilton, poss. used in Philadelphia and downtown Manhattan, poss. later at HAGR; donated to SI by grandson | -Shelf supports are original -Shelves may or may not be original -Apron has drawer |
| 2 | Writing desks, traveling, ca. 1800; on desk or trunk | Mahogany | SI, catalog no. 16507 | Study | Owned by Hamilton; donated to SI by grandson | |
| 1 | Cylinder desk Federal style, ca. 1800 | Mahogany | MCNY, catalog no. 71.31.13 | Study | Owned by Hamilton, poss. used at HAGR; donated to MCNY by grandson | |
| 14+2 | Shield back side chairs and armchairs ca. 1800 | Mahogany with satinwood inlay horsehair | MMA, accession no. 1977.257.1 | Dining room | Owned by Hamilton or Schuylers Hamilton; in various institutions through donations by Hamilton descendants or antique brokers | Add spaced brass nailing (none in photograph); adapt armchair from side chair |
| 1 | Sideboard, New York, ca. 1800, attributed to Elbert Anderson | Mahogany and mahogany veneer | Colonial Williamsburg collection, accession no. 1930-12 | Dining room | Not documented to family, but historically appropriate | |

Only one day was allotted to examine, photograph, and draw each piece on site. During examination of the furniture in the collections and at the studio, discoveries were made that showed that some of the pieces of furniture in the photographs provided with the initial request for proposal (RFP) were not historically accurate.

The set of Hains seating furniture will be highlighted in this paper, as it presented several interesting findings and challenges.

2.1 PROVENANCE OF THE HAINS SUITE

The suite was dispersed among the family upon the death of Alexander Hamilton's widow Elizabeth, in 1854.

The chairs descended in the Hamilton family until they were acquired by C. Whitney Dall, who in turn donated them to the NPS in 1979.

The NPS owns five chairs from the set: two armchairs and three side chairs. The original set included at least eight armchairs, five side chairs, and one, or possibly two, large sofa(s). A pair of demi-lune side tables may also have been part of the suite.

According to the 1986 Hamilton Grange Furnishings Report, some of the pieces are now in the following collections.

1. Two armchairs and a demi-lune side table at the Smithsonian Institution (SI).
2. One sofa, two armchairs, and two side chairs at the Museum of the City of New York (MCNY).
3. One armchair and one side chair in the collection of Hamilton descendant, Geo T. Bowdoin (no documentation).

2.2 ATTRIBUTION OF THE HAINS SUITE

The Hamiltons purchased the French-inspired Louis XVI parlor suite directly from Hains sometime between 1790 and 1795. The suite was possibly upholstered by Georges Bertault. When the US government moved from New York to Philadelphia in 1790, the Hamiltons moved with it. Philadelphia presented many possibilities for purchasing new furniture in the most current taste by the city’s outstanding cabinetmakers. Adam Hains was one of such artisans and had a cabinetmaking shop on 135 North Third Street. Many pieces made by Hains were upholstered by French upholsterer George Bertault.

It appears that the suite was both fashionable and of a popular design at the time. The French style may have been

inspired in part by the furnishings that Thomas Jefferson purchased in Paris in the 1780s. In fact, a suite of eighteen chairs, imported by Jefferson is very similar to the Hamiltons’ parlor suite.

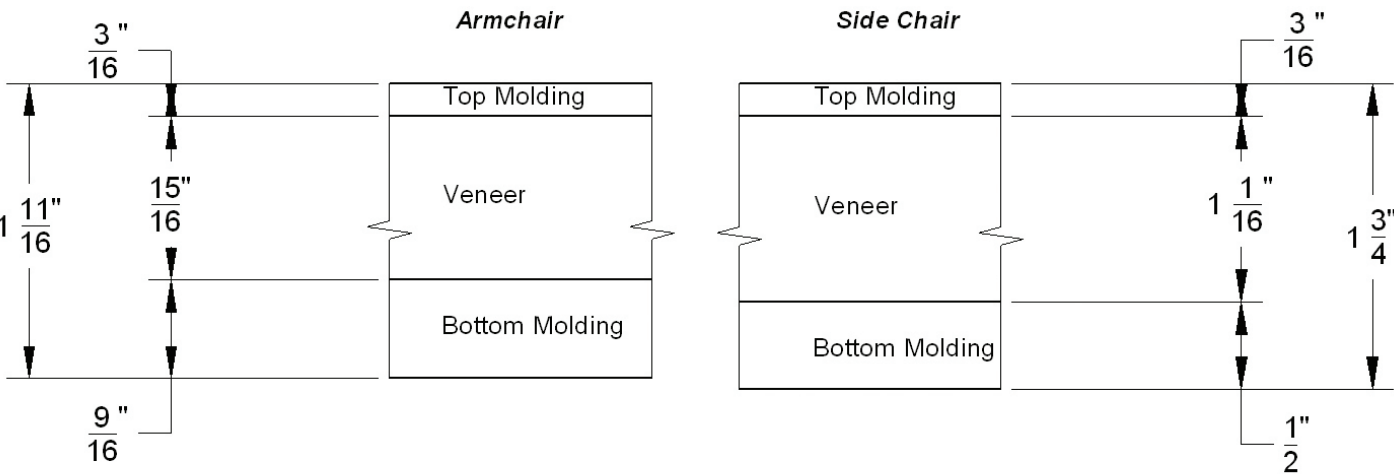
Hains sold at least three more sets in the same French-inspired design, additional to the Hamiltons’ suite.

The first of these sets may have been made for President George Washington in 1793, which he acquired from Bertault, and which was probably made by Hains. Two of the armchairs are currently in the White House collection. The set included six chairs and two stools.

A second set is known to have been owned by Andrew Craigie, the first apothecary general in the Continental Army. Craigie purchased twelve armchairs and two settees ca. 1793 from Bertault. The suite was used at Vassall House in Cambridge, MA, built in 1791, and is now in possession of the NPS as the Vassall-Craigie-Longfellow House.

The third set was also used in Massachusetts, at Theodore Lyman’s country residence, “The Vale,” in Waltham, MA, which was built in 1793 and is currently managed by Historic New England (HNE). Lyman purchased eight armchairs and two settees from Adam Hains, of which one chair retains a paper label with the text:

*All Kinds of
Cabinet and Chair work
Done By
Adam Hains
No. 135 North Third Street
Philadelphia (Carlisle 2003)*



10-071 HAGR 84--89
Seat rail dimension comparison

Fig. 3. Drawing to compare the layout of the seat rails on an armchair (left) and side chair (right).



Fig. 4. Top: rosette carvings on armchair HAGR 85 (left) and side chair HAGR 89 (right); Bottom: finials on armchair HAGR 85 (left) and side chair HAGR 89 (right).

2.3 REPRODUCTION OF SIDE AND ARMCHAIRS

The chairs are complicated pieces of furniture due to compound angles, round shapes, and a multitude of techniques employed in them. They are veneered and include moldings, regular and off-center turnings, carving, and French style upholstery.

It was fortunate to have the chairs in the studio for conservation as well as reproduction, as it provided full access to all minute details at any point.

The chairs are made with ash secondary wood for the seat rails and mahogany for all show surfaces, including the veneer. They are joined by mortise and tenon joints (pegged in the rear panel of the armchairs), and sliding dovetail joints for the arm supports.

2.3.1 Comparison of Hamilton Grange side chairs and armchairs

The side and armchairs have numerous variances in design, indicating that they may not have belonged to the same set originally. However, there are many similarities that suggest that



Fig. 5. Detail of the turned front legs of armchair HAGR 85 (left) and side chair HAGR 89 (right).

they were made in the same cabinetmaker's shop. The following is a list of the most obvious differences.

1. The composition of the seat rail decoration uses the same vocabulary as far as top fillet, cross-banded veneer, and bottom molding are concerned, but the dimensions of the individual elements and overall height vary between the arm and side chairs. For instance, the veneered section is lower on the armchairs (fig. 3).
2. The rosette carving on the armchair is a more classically carved rosette, while the style of the rosette on the side chair is reminiscent of chip carving (fig. 4).
3. The finials of the armchairs feature eight narrow petals, while the finials of the side chairs have four wide leaves (fig. 4).
4. The main differences between the turned legs are (fig. 5):
 - (a) a single collar on the armchairs, a double collar at the top and bottom of the side chairs;
 - (b) a longer flat above the fluting on the armchairs than on the side chairs;
 - (c) a scoop in the top of the stops of the stop fluting of the armchairs, no scoop in the stops of the side chairs; and
 - (d) the stop flutes die into the bottom collar on the armchairs, while the flutes end in a carved U shape on the side chairs.
5. The armchairs have through pegs in the mortise and tenon joints of the rear legs with the seat rails, the stay rail, the arms, and the crest rail, while they are not visible (or not used) on the side chairs.
6. The inside of the seat rails of the armchairs is somewhat finished/smoothed, while the inside of the seat rails on the side chairs is still rough sawn.

7. The top fillet of the seat rails on the armchairs is constructed with a solid piece of wood at least two or three times as thick as the piece of veneer employed on the side chairs (ca. 1/16 in. thick).
8. The bottom molding of the armchairs is not secured to the seat rails with square nails, while it is on the side chairs.

Comparing the Hamilton Grange chairs to chairs and sofas attributed to Hains in the other collections that were visited, it becomes apparent that the Hamilton Grange armchairs stand out (table 2). The rosette, arm knuckle, and finial carvings, layout of the seat rail decoration and joinery, only seem to match the armchairs at the MCNY, which have a Hamilton provenance, and are closely related to the Craigie chairs at the Vassall-Craigie-Longfellow House. The chairs and sofas in the collections of the Metropolitan Museum of Art (MMA), HNE (Lyman suite), White House, and the Museum of Fine Arts (MFA), Boston, appear to match the Hamilton Grange side chairs, with some differences.

2.3.2 Reproduction process of the chairs

The reproduction process started with a detailed drawing of the seat plan, and layout of the turning of the front and rear legs. Since there were many dimensional differences between each of the three side chairs and both of the armchairs, it was decided to take one chair of each type as the basis for reproduction. The side chair was slightly asymmetrical, which provided a bit of additional challenge.

The layout of the rear leg was rather complicated because of its compound angles, double rake, round shapes, and limited accessibility with the upholstery. They also featured a big off-center turning of about 15 in. diameter. Because the rear stiles sat at an angle within the seat plan and had a double rake for the legs as well as the upper stiles, the rear seat rail, stay rail, and crest rail all entered the rear stiles at a different (compound) angle. It was very important to get both rakes of the rear stiles and the angle within the seat plan exactly right. If any of the angles were off, the width of the crest rail and stay rail, length of the arms, and splay of the legs would not be correct (fig. 6).

Most of the carving on the chairs was fairly straightforward, although time consuming, and included stop fluting in the turned front legs, rosette carvings of two types, fluting in the rear stiles, stay rail, and crest rail, and turned and carved finials. The arms, however, did pose an interesting carving challenge, being very three-dimensional with a double curve going up and out. All four arms on the two original armchairs proved to be slightly to significantly different. A drawing of the top and side was made and blanks were cut out. After a complicated fitting of the two joints, the arms were slowly carved to shape using patterns of the curves and arm pads. Final carving and fluting was done after assembly with the rest of the chair.

2.4 REPRODUCTION OF THE SOFA

The reproduction of the sofa was a challenge of different proportions. The sofa that was thought to have been at Hamilton



Fig. 6. The rear panel of one of the reproduction armchairs before assembly.

Grange originally, is now in the collection of the MCNY. It was severely altered in the 19th century, when all the legs were taken off and an Empire style base with crotch mahogany was put on it (fig. 7). The initial RFP asked to “modify base to approximate sofa’s original structure based on comparison with matching side and armchairs in collection at Hamilton Grange.” This proved to be less straightforward than the RFP suggested.

Fortunately, when visiting HNE to examine a recently reupholstered Hains armchair, there was the possibility to briefly inspect one of the two Hains sofas that are part of the Lyman suite. One of them had open arms with arm pads like the Hains armchairs, but the other one was very similar to Hamilton’s sofa and had closed arms (fig. 7). Two major differences with Hamilton’s sofa were the presence of only one medial stile and one rear leg in the back, and the contoured bottom of the crest rail of the HNE sofa. The Hamilton sofa had two medial stiles and possibly had two rear legs originally. It had a straight bottom edge on the crest rail. Additionally, there were several minor differences in the carving and upholstery details. The dimensions of both sofas were very close.

Table 2. Comparison of Cabinetwork on Examined Chairs and Sofas

| | HAGR Side Chair | HAGR Armchair | MMA Armchair 1995.482 | MFA Armchair 1979.486- 487 | MCNY Side Chair 71.13.14A | MCNY Armchair 71.31.14B | MCNY Sofa 71.31.16 | HNE Armchairs 1966.121 1966.124 | HNE Sofa 1966.116 | Washington Armchair | Craigie Armchair |
|------------------------------|--|--|-----------------------------|-------------------------------------|------------------------------------|-------------------------------|--------------------------|--|-------------------------|------------------------|--------------------------|
| Rosette carving | “Chip” | Classical | “Chip” | “Chip” | “Chip” | Classical | N/A | “Chip” | “Chip” | “Chip” | Classical |
| Turned legs | Double collar bottom and top | Scoop in stops of flutes; no double collar | Double collar | Double collar | Double collar | Scoop; no double collar | N/A | Double collar (diff. dim.) | Double collar | Double collar | Scoop; no double collar? |
| Joinery | No through pegs visible | Through pegs in mortise and tenon of rear legs | No? | ? | ? | Through pegs | ? | No | ? | ? | ? |
| Inside of seat rails | Rough sawn | Smooth | Rough | ? | ? | Somewhat cleaned up | ? | Rough | ? | ? | ? |
| Finials | Leaves (also differences between chairs) | Petals | Leaves | Leaves | Leaves | Petals | Petals | Leaves | Leaves | Different | Petals? |
| Top fillet of seat rails | 1/16 in. thick | 1/8–3/16 in. thick, kerfed | ? | ? | ? | ? | N/A | ? | ? | ? | ? |
| Bottom molding of seat rails | Attached with square nails | No nails | No nails? | ? | ? | ? | N/A | ? | ? | ? | ? |
| Seat rail decorative layout | Taller veneer | Lower veneer | Taller? | Taller | Taller | Lower | N/A | Taller | Taller | Taller | Lower |
| Volute on knuckle | Single twist | Single | Double twist | Double twist | Single | Single | Single | Double | Double | Double | Single? |
| Miscellaneous | | | | | | | Note 1 | Note 2 | Note 3 | | |

Note 1: same molding as chairs at seat-arm support; diff. molding (flat) at arm support-arm; one medial stile, one rear leg.

Note 2: different molding at seat-arm support; arms lower than HAGR armchair.

Note 3: two medial stiles in back, probably two rear legs.



Fig. 7. Top: sofa at HNE. Gift of the children of Arthur and Susan Cabot Lyman. Accession #1966.116.1. Photograph by Randy S. Wilkinson. Courtesy of HNE; Bottom: sofa at the MCNY. Accession #71.31.16. Photograph by Randy S. Wilkinson. Courtesy of the MCNY.

For the new reproduction sofa, the layout of the Hamilton sofa was used from the seat rail up, and the design of the HNE sofa was applied to the legs, which matched the legs of the side chairs. The design of the squab and cushions was based on an image in Edward S. Cooke's book, *Upholstery in America & Europe from the Seventeenth Century to World War I* (1987), of the French sofa in the Rijksmuseum, Amsterdam.

3. CONSERVATION CONTRACT

As mentioned earlier, Fallon & Wilkinson, LLC was also awarded a contract to conserve the five original Hains chairs in the Hamilton Grange collection.

3.1 TREATMENT

The conservation of the chair frames proved to be very minor, and was limited to

1. stabilization of occasional breaks, loose veneer, rosette carvings, finials, and moldings;
2. injecting of some joints for structural stability;
3. loss compensation on tacking blocks and tacking rails with match-stick technique in poplar;
4. consolidation of tacking rails with fish glue or Lascaux medium for consolidation; and
5. touch up of regular wear and—to an extent—fill tack holes in the show wood of the back.

However, the upholstery examination and reupholstery of the original chairs was quite involved.

3.2 UPHOLSTERY EXAMINATION

As requested in the scope of work, recommendations were made for (re-)upholstery of both the original chairs and the reproduction chairs. The later show covers on the chairs were carefully removed to evaluate the foundation and look for evidence of an original show cover and under-upholstery.

No mention or documentation of the original upholstery existed in the NPS accession files, except for a photograph of unknown date from a 1968 book on the Grange (Sloane and Anthony, 1968), which depicts a side chair and an armchair, supposedly retaining their original under-upholstery with a new show cover. Unfortunately, the photograph is in black and white and the caption does not mention a color. The chairs appear to be upholstered in a plain fabric and have a crisper shape with trim and brass nailing in the French manner.

Soon after the start of the upholstery examination on the chairs, it was discovered that they were not upholstered quite right. There was too much loft in the seat and the back, where the shape needed to be more crisp and box-like in the French manner. The back should have come straight out from the crest rail and rear stiles, leaving room for brass decorative nailing. The back should have followed the curve of the crest rail all along its height, and follow the straightness of the rear stiles, with no added loft in either direction. The seat should have come straight up on all sides and be extremely flat on the top (“en tableau”), with no loft. All corners should have been very crisp and square. Typically, there should have been brass nailing and trim around the base of the arm supports and even on part of the show wood of the arm support.

The chairs currently featured no brass nails and only trim around the perimeter of the seat, back, and arm pads (fig. 8).

3.2.1 Under-upholstery

Part of the (likely) original under-upholstery was discovered hidden inside the current under-upholstery on seat, back, and arms. The added material looked like a fairly recent treatment, as the fabrics were bright, unstained, and in excellent condition. The tacks used were modern tacks.

The old/original horsehair “cake,” found inside the later treatment, was in fair to good condition. A very crisp stitched edge and sparing use of tacks were clearly visible on both the back and seat. The upholstery cake of the back appeared to have a beveled, rather than square edge at the bottom. One upholstery conservator (having seen it in images) believed that it was the original cake, based on the examples of Hains chairs she had seen at HNE and the MMA among others. Some of the chairs (armchair HAGR 84 and side chairs 88, 89) had an old addition to the original cake in the form of some added horsehair and another stitched cover, which was stitched through all layers. The two other chairs (armchair HAGR 85 and side chair HAGR 87)



Fig. 8. Hamilton Grange armchair (HAGR 84) before treatment (left) and the recently reupholstered Lyman armchair (right). Gift of the children of Arthur and Susan Cabot Lyman. Accession #1966.121. Photograph by Peter Harholdt. Courtesy of HNE. Adam Hains (1768–after 1820). Original upholstery attributed to George Bertault (working 1792–1800). Philadelphia, PA, 1797. Mahogany, ash. H. 33 ¼, W. 23 ¼, D. 19 ¼.

appeared not to have these older added materials, but only the newer additions. Some of the old cakes were cut open during a previous restoration to adjust or remove the horsehair.

Like Hamilton's chairs, the Hains chairs at HNE retained their original under-upholstery, which was a testament to the quality of the upholsterer's work. However, the very typical top stitching of the seat's cake, the so-called French edge, was removed to soften the edge. Hamilton Grange's chairs retained this valuable information, which so powerfully defined the square, sharp shape of the seat.

3.2.2 Show cover

Generally, green seemed to be the fabric of choice in 1790 for these chairs, judging by the original purchasers and intended locations.

1. President Washington's chairs were placed in the green drawing room.
2. The Craigie suite was covered in green and white silk.

3. The Lyman furniture revealed green silk damask under some of the original tacks when it was recently conserved for display.
4. The MMA chair had fragments of yellow silk in all of the tacking margins. It is now upholstered in red silk by curatorial choice.

Also, Hamilton's chairs were re-covered in green fabric, possibly shortly after they were acquired in 1799, although no justification for this color is documented.

Upon seeking advice from several upholstery consultants and conservators, it was found out that the show cover should be silk damask with a large repeat, rather than the current small pattern silk.

3.2.3 Show cover of the outbacks

Although the chairs most recently had an outback applied to the front of the rear stiles, it was clear that the outback was once applied to the back of the rear stiles, given the extensive number



Fig. 9. Back of Hamilton Grange side chair (HAGR 87) with filled tack holes from previous outback attachment.

of filled tack holes (fig. 9). With the bottom of the crest rail being rather crudely finished, but the rear stiles and stay rail finely finished, no conclusive evidence could be found on the Hamilton Grange chairs alone.

Upon comparing the application on chairs in other collections, it was concluded that all chairs, except the MMA chair, had had the outback applied to the back of the rear stiles at some point in their life (table 3). The HNE Lyman chairs show the outback applied to the back of the rear stiles on an 1884 black and white photograph.

However, there is evidence of an old if not original application to the front of the stiles on the MMA chair, which shows no other evidence at all. The underside of the MMA chair's crest rail is finished. Also, the HNE Lyman chairs had show fabric applied to the front of the rear stiles.

All current outbacks are applied to the front of the stiles, except the outback of the MCNY sofa which maintains an older upholstery campaign, and the HNE sofa which does not currently have a show cover.

The other aspect of the outback was the material of choice. The Lyman suite retained its original French style under-upholstery,

although the show covers were replaced in the 19th century. One chair retained a blue check linen underneath the cream colored silk outback. Checked linen was sometimes used by French upholsterers for the visible sack cloth of the outback and was also employed on Jefferson's Monticello chairs in a red check. It did not appear to have been the visible sack cloth for the outback on the Lyman suite, however. The MMA chair currently features the same large pattern red silk damask for the outback as for the rest of the chair, while the MCNY chairs have a cream colored fabric for the outback and a blue-grey floral striped silk for the rest of the chair.

Since all chairs currently had the outback applied to the front of the rear stiles and the material of choice mostly appeared to have been silk, it was recommended that the outback be applied in silk to the front of the rear stiles for the Hamilton Grange chairs as well. Having been able to compare chairs in four different institutions justified the more expensive choice of silk over (checked) linen.

During examination, three single blue threads were found attached with some brittle glue on the back of the old horsehair cake of the back rest of two side chairs. Cathy J. Coho, upholstery conservator in private practice, performed preliminary fiber identification on the threads and classified them as Z-spun linen fibers, with traces of blue dye. It is possible that they were part of a loosely woven linen fabric, perhaps a blue check similar to what was found on the Lyman chairs at HNE. Another possibility was that the fibers were part of a plied upholstery sewing thread that was over-dyed blue after it was spun. Similar sewing threads from previous repairs were also found on the Lyman chairs. Given its location, no firm conclusions could be drawn.

3.2.4 Brass nailing and trim

The undated photograph in *Mr. Daniels and the Grange* (Sloane and Anthony, 1968) depicted a side chair and armchair, supposedly retaining their original under-upholstery. As on the restored Lyman chairs, these two chairs featured closed brass nailing and trim outlining the raised edge of the inback and seat covers. The Hamilton sofa now at the MCNY appeared to have had the same decorative scheme.

During examination of the armchairs, two brass square shanks were found at $\frac{7}{16}$ in. apart, confirming the closed nailing pattern for the brass decorative nailing, as seen in the black and white image. In addition, some of the brass dome heads left an impression in the show wood of the armrests, just above the seat on the outside, which appeared to be characteristic for the upholstery on other Hains chairs. There again, they were close to each other. Their diameter was about $\frac{15}{32}$ in.

The style and quality of the old upholstery cake and the application of brass decorative nails and trim on the show wood of the arm supports possibly link all chairs to the same upholstery shop.

3.3 UPHOLSTERY CONCLUSIONS

Initially it was assumed that little evidence of the original upholstery would be found and the under-upholstery on the

Table 3. Comparison of Upholstery on Examined Chairs and Sofas

| | HAGR Side Chair | HAGR Armchair | MMA Armchair 1995.482 | MFA Armchair 1979.486- 487 | MCNY Side Chair 71.13.14A | MCNY Armchair 71.31.14B | MCNY Sofa 71.31.16 | HNE Armchairs 1966.121 1966.124 | HNE Sofa 1966.116 | Washington Armchair | Craigie Armchair |
|------------------------------|--------------------------------------|--------------------------------------|--|-------------------------------------|--|-------------------------------|--------------------------|---|---|------------------------|-------------------------|
| Current location of outback | Inside | Inside | Inside | Inside | Inside | Inside | Outside | Inside (old/original) | Inside (old/original) | ? | ? |
| Previous location of outback | Outside (filled holes) | Outside (filled holes) | none | ? | Outside (filled holes in stiles and stay rail; not in crest) | Outside ? | ? | Outside (filled holes) | Outside (filled holes) | ? | ? |
| Original show cover | ? | ? | Yellow silk? | ? | ? | ? | ? | Green silk damask | Green silk damask | Green | Green and white silk |
| Current show cover | Dark green large pattern floral silk | Dark green large pattern floral silk | Red large pattern floral silk | Blue small pattern silk | Blue-grey striped floral silk | Blue-grey striped floral silk | Plain blue-grey fabric | Light green large pattern floral silk | None | Striped cream silk (?) | Cream and floral fabric |
| Current material of outback | Dark green large pattern floral silk | Dark green large pattern floral silk | Red large pattern floral silk | ? | Plain cream cotton | Plain cream cotton | Plain beige cotton? | Old/original cream colored silk (on 1966.124 over blue checked linen) | Coarse linen, but poss. previously covered on outside | ? | ? |
| Miscellaneous | | Square bottom inback | Separately stored old cake (same as curr. on sofa) | See MCNY side chair | | | | Chamfered bottom in back | | | |

original chairs would not be retained. Having found abundant evidence of the correct shape, loft, and recommendations for the historically accurate type of show cover, the original scope of work was insufficient. It was no longer ethically or aesthetically advisable to simply recover the original chairs or remove the old cakes and make the reproduction chairs and sofa match them. Furthermore, due to numerous upholstery campaigns, the seat rails were in rather tough condition for traditional upholstery.

Fortunately, the curator agreed with the presented evidence and suggestions, and was able to apply successfully for additional funding and revise the RFP. The revised scope of work now included saving the old/original under-upholstery and using minimally intrusive attachment techniques with Nomex sewing strips, rather than reupholstering with traditional tacking. Materials that were added to the original foundation were removed. A historically accurate show cover of 100% silk damask with a large repeat was custom woven in England by the Gainsborough Silk Weaving Company Ltd.

The reproduction chairs were traditionally upholstered to match the original chairs.

In keeping with the French style, closed decorative brass nailing and tape in the same color as the fabric was applied all along the perimeter of the arm pads, seat, and back. The trim and nails went in around the base of the armrests on the front and the side, as was done on the Hains chairs at the MMA and HNE. Trim was also stitched to the square edge of the seat and back.

Since no conclusive contradictory evidence was found on the Hamilton Grange chairs, the NPS chose green as the color for the original and reproduction chairs.

4. CONCLUSION: ETHOS, LOGOS, AND PATHOS

In both contracts, recommendations for upholstery were requested upon examination of the original, to-be-reproduced furniture. The recommendations for the entire suite of chairs and sofa were formulated based on the examination of the Hamilton Grange chairs, the MCNY sofa, the HNE sofa, (almost) identical Hains chairs in other collections, as well as conversations with upholstery experts in the field, historical evidence of upholstery practices of the period, and Alexander Hamilton's presumed taste and style. Close examination of the upholstery during conservation led to a more accurate upholstery of the originals as well as the reproductions.

The chairs are historically important, not only because they were owned by a founding father, but also because the Hains chairs are well-documented chairs in other collections. It is fairly unique that both woodworking and upholstery are attributed to the original craftsmen (i.e. Hains as the cabinetmaker and Bertault as the upholsterer). Making five more chairs to fill out the set means that Hamilton Grange will be able to display a more historically accurate presentation of what the parlor may have looked like in the period. It offers a more complete picture of the use of such furniture.

Although it is sad to know that most of the original pieces, except for the original Hains chairs, will remain in storage and out of sight, the original pieces are still available for study in other locations and collections. Because they do not need to be displayed, the originals are in some cases left in a more accessible and untouched state, i.e. not refinished or reupholstered.

The combination of both contracts (one for reproduction and one for conservation of the original chairs) proved to be a fortunate one. It provided the opportunity to study the frames in detail with a conservator's eye for historical evidence and detail. In addition, it allowed consultation with colleagues in the upholstery field for detailed, specialist information on shape, loft, and fabric choice. Upholstered as well as un-upholstered (almost) identical Hains chairs were examined in the collections of the MMA, the MCNY, and HNE.

Through the building process, insights were gained into the construction and woodworking that one cannot gain by only studying the pieces. Laying out and making components like the rear stiles and arms of the Hains armchairs was a test of one's ability to accurately measure and interpret the available evidence as well as a test of hand skills (fig. 10).



Fig. 10. An original armchair (left) and a reproduction armchair (right) during reproduction, side by side.



Fig. 11. Original side and armchair (left) and a reproduction side chair (right), after treatment.

Having been able to study some of the original pieces in depth in the studio and others on site at their various home institutions, the authors feel confident that the reproductions are as close to the originals as they can be. Often reproductions have to be made from photographs and many details cannot be determined, resulting in a reinterpretation rather than a one-on-one reproduction. These reproductions match the originals extremely closely—if not exactly—in dimensions and execution, ensuring that a minimum

of information is lost by exhibiting of reproductions rather than originals (fig. 11).

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AUTHOR BIOGRAPHIES

RIAN M. H. DEURENBERG-WILKINSON is a conservator at Fallon & Wilkinson, LLC, a private conservation firm in Connecticut. Between 2005 and 2007, she held a two-year position in the Sherman Fairchild Center for Objects Conservation at the Metropolitan Museum of Art in New York, where she worked on neoclassical furniture for the reinstallation and renovation of the American Wing. After graduating from the furniture conservation program at the Netherlands Institute for Cultural Heritage (ICN) in 2001, she has worked in private and institutional conservation labs in both the Netherlands and the United States, including a three-year Andrew W. Mellon Fellowship at the Philadelphia Museum of Art.

RANDY S. WILKINSON is a furniture conservator and principal in the firm of Fallon & Wilkinson, LLC in Baltic, CT. He received his training at the Smithsonian Institution's Furniture Conservation Training Program and earned his master's degree from Antioch University in 2000. He completed fellowships at the Preservation Society of Newport County, RI, and the Mystic Seaport Museum in Mystic, CT. He has been building reproduction furniture for over twenty three years and his work can be found in museums and private collections.