Upholstery Conservation in the Acton Collection, 
Villa La Pietra, Florence

Claudia Beyer  
Textile Conservator,  
Restauro Tessile di Beyer e Perrone Da Zara snc, Firenze, Italy

Abstract
Abstract text The Acton Collection consists of more than 5000 objects that include many fine art objects in addition to the furnishings and artifacts that belonged to the Acton family and were used by them during the twentieth century. In 1994, the collection at Villa La Pietra passed to New York University with the bequest of Sir Harold Acton. Since then, a comprehensive program of conservation and collection care has been undertaken in which addressing the issues of the many of the seriously deteriorated textiles has been a high priority. This paper will look at the general approach to upholstery conservation at Villa La Pietra in Florence, which includes thorough documentation and treatments designed to stabilize the Acton-era materials. The degree of intervention is tailored to the specific object and sometimes requires the expertise of other specialties. Examples will be used to illustrate interesting divergences from, and complications of, the general approach.

Keywords
Keywords text Upholstery, historic house, Villa La Pietra, water stain, textile, damask, custom made fabric, Acton Collection

Introduction
Since 1998 we have had the opportunity to work on a wide variety of 16th to 20th century upholstery in different states of preservation. We have treated about 90 upholstery objects. The textile furnishings including tapestries, carpets, costumes, table runners, curtains, and wall hangings have been surveyed for conservation needs. An annual maintenance session is a high priority and includes monitoring, cleaning,
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and minor stabilization throughout the house. Rehousing of fragile textile objects is also an ongoing activity.

Like many historic houses, the Acton Collection includes pieces of historic furniture which had been re-upholstered by the Acton family with fragments from a variety of historic textiles. The Actons, as was typical of the taste of their time, embellished their furniture with tassels, ribbons, embroidered appliqués, and other trims. The conservation approach we took may differ from that of a typical museum where restoring an original material or presenting a historically accurate object may be the goal of the treatment. Early on, the upholstery was identified as being a conservation priority. Since what we are trying to preserve is the Acton aesthetic in all of its distinctive style, the patchwork assemblies and even the occasional home-style repair, are preserved.

Conservation treatments of upholstery generally follow a procedure:

- Examination and documentation (sketches, diagrams with measurements, condition and construction, photography)
- Low-suction vacuuming
- Removal of glue and reduction of staining (with contact cleaning)
- Removal of old mends where they create tensions
- If wet cleaning is necessary (only in case of heavy soiling) disassembly of linings or sections followed by washing separately in aqueous solution or treatment using a suction device
- Preparation of materials for treatment
- Insertion of support fabrics, re-alignment and reinforcement of unstable areas
- Protection of the surfaces with nylon net
- Stitching of open seams

The goal is to use techniques that are reversible and minimally intrusive. We make the decision to remove later additions only if they cause damage to the original materials, due to the type of materials used or the method of application. All of the documentation is done in accordance with the AIC Code of Ethics and Guidelines for Practice. Any support materials we use are archival-quality and we avoid interference with historic upholstery. In addition to relying on our skill and dexterity, we custom dye all of the materials to perfectly match the original materials.

An example of an Acton patchwork: The green brocatel curtains

The green curtains that hang in a doorway of the Sala Rossa at Villa La Pietra are an excellent example of the Acton style [Fig. 1]. The curtains are composed of 17th century Italian green silk and linen brocatels with different floral patterns and different trims. The curtains were lined with linen and were suspended from rings. Treatment was necessary because the projecting folds were seriously abraded and the heavy structure put stress on tears that were gaping open in a grievous way. It was also necessary to improve the mounting system without altering the appearance.

The broccatello pastiche is composed of four different fabrics, many with horizontal tears. Some large patches of 3 different brocatels were sewn by machine on top of the main fabric through to the lining --a classic Acton style of layered repair. The curtains exhibited sooty soiling overall and some liquid stains. Some trim was glued to the front fabric, and, as became apparent later, concealed a large tear.
Early on, it was apparent that the object would need to be partially dismantled because the short lining was causing ripples in the multilayered structure. It also became clear that the Actons concealed extensively damaged areas by patching over them with more green brocatel. Some of these areas would have been the most vulnerable to handling by people passing by. As part of the documentation, we created a diagram of the construction and damages as a visual explanation of patch placement. This became indispensable as a map for how to re-assemble this complicated object.

The surfaces were cleaned using low-powered vacuum suction. The lining was treated first. It was wet-cleaned. The weave was eased into alignment and the lining left to dry flat naturally. As expected, it shrank slightly. However, since the lining was already too short we had already planned to add an additional linen section.
The main fabric was cleaned using an ultra-sonic humidifier that produced cold vapor in conjunction with contact cleaning. This was particularly effective as it gave back shine and colour to the fabric and the curtain was noticeably flatter afterwards.

The front side was stabilized while it was detached from the lining. Positioning supportive linen patches alongside but not overlapping the seams and matching every piece of brocatello, was important for planar alignment and reduced the rippling caused by the construction. Areas of loss and splits were secured with lines of organzine silk thread laid and couched to these patches of dyed linen. The trims were secured by hand-sewing them into their original position.

This kind of object often hides a lot of work that is difficult to foresee. A tremendous number of hours were used for couching stitching to consolidate weak areas. Also the planar alignment proved challenging and the curtains were “test-hung” several times before uneven tension could be eliminated. Some changes were also made to the hanging system. We chose a dark 4 cm wide grosgrain strip to make loops that were hidden between the lining and brocatello. The rings hang in place from the original curtain rod but only appear to be connected to the curtains, whereas the grosgrain loops that match the rod in colour are effectively invisible.

**An example of an upholstery problem that has escaped twentieth century interventions: An armchair with a difficult structure**

This armchair is one of a set of four ebonized wing armchairs and a sofa. An inventory description says “the scrolling backs, arms and seats are upholstered in pale green silk floral damask upon cabriole legs joined by bobbin-turned and square-section stretchers. Possibly Venetian.” The seat contains no springs.
This chair has a very peculiar shape, making the conservation work particularly tricky [Fig. 2]. Though the same methods and materials have been applied to other Acton objects including cushions and seats, no single piece presented the same degree of damage and structural complications. After a meticulous examination and before starting the conservation treatment, we asked advice from a furniture conservator. We found out that the wooden frame was broken in two projecting points. We released the structure from the fabric, damaging it as little as possible by opening the seams in small areas to allow access to the breaks. The treatment of the wooden frame was carried out by Primo Biagioni.

**Treatment**

The silk fabric was in extremely poor condition. At first glance, we assumed it would be a candidate for complete substitution. The pale green silk warps were lost in many areas exposing the wood of the structure and the undercover lining. The cotton wefts were loose and at risk of catching and breaking. In some areas we found coarse darnings that we left in situ where they were not creating tension and damage to the fabric. In some areas we found open seams. The dye has faded dramatically due to light exposure, but the original colour can still be appreciated on the reverse of the cushion.

![Fig. 3: Armchair, before and after](image-url)
Instead of substitution, we took the three step approach of aligning frayed wefts over a custom-dyed underlayer and covering with net—though this was complicated by the fact that the surfaces were often vertical and undercut. After documentation, the armchair was vacuumed to remove particulate soils. Then the stabilization was begun. First, pieces of dyed linen fabric were slipped beneath the areas of loss. As the loose and tangled wefts were tidied and stitched down in some areas, the dyed maline net was incrementally pulled over and secured to the trim. Open seams were restitched. The maline was cut away from the trim after being secured to the surface, allowing these relief elements to show. The net, when dyed correctly, creates a subtle, visually homogenizing effect over the green fabric but obscures the texture and sheen of the yellow trim. The cushion was treated in the same way. The fabric on the back side of the chair was secured with silk crepeline (pre-coated with Mowilith (17%) heat-set adhesive) which was inserted behind the damaged areas and ironed with a heated spatula.

In contrast to our first impression, the conservation treatment of the existing worn damask was successful beyond our expectations [Fig. 3] and currently two more chairs from this set with similar problems are undergoing treatment.

An example of diverse materials affected by repeated old water damage: The Sala Studio

In addition to the usual upholstery problems caused by wear and tear, a roof leak had created terrible water stains on an unvarnished distemper painting, the wall fabric, and a sofa. Photographs taken in the twentieth century show the damage occurring repeatedly over a span of decades [Fig. 4].

![Fig. 4: Sofa, before treatment, Sala Studio](image)
The objects treated in this room also included shattered silk seats and two cushions that are displayed on the sofa.

**A sofa with a green silk cover**

The sofa is similar in form to what is called a “camel back” sofa in the US and UK. It has a double arched crest rail, serpentine seat front, scroll arms, and cabriole legs. It has rather minimal upholstery, with no springs. The grass or straw fillings that could be seen were brittle and had compressed and sagged. The fabrics used in the upholstery support layers were soiled but intact. The show cover on the seat, inside back, and inside and upper outside arms is a green silk warp faced rep fabric. The lower outside arms has a darker green plain weave fabric which was also fragile. There is no show cover on the outside back; a jute layer is exposed. The ribbon trim is a narrow faded green flat gimp. Where the tacks are in contact with it, the corrosion of the metal has caused deterioration and discoloration. This sofa, in keeping with many Acton artifacts, is a pastiche, a combination of parts most likely assembled in the early twentieth century at the time the Actons were furnishing Villa La Pietra. It appears that the show cover fabric was recycled, because it is a patchwork of small and large pieces. Two parallel rows of stitch holes indicate the location of a previous trim. The seams that secure the pieces in the seat are hand sewn, while the seams that secure the widths of fabric are machine-sewn.

The show cover, though structurally intact, was visually in horrific condition. It was alarmingly disfigured by water staining – repeated soaking from leaks in the roof had run down the wall and painting, carrying dirt and loose pigment with it. This disfiguring appearance was the primary motivation for treating the sofa.

**Treatment**

This was a rare case in the Acton Collection where substituting a new fabric for an Acton-era fabric was considered appropriate. The decision was based on the severity of the staining, the ordinary quality of the twentieth century fabric, and the possibility to replicate the fabric very closely. Covering the sofa with a new show cover was also considered, but decided against because of the thickness that the layers would add as an interleaving layer of Tyvek was already planned. All of the materials that were removed were documented, vacuumed and packed for storage in archival-quality materials to serve as a record of what had been on the sofa.

Before removing the show cover and the trims, their original mounting was documented with tracings onto strips of Mylar. These strips were useful during the final stages of the treatment for replicating the original placement.

Once the show cover was removed, the furniture conservator Primo Biagioni was asked to evaluate the joints and re-glue as necessary. He was able to stabilize the broken areas without removing the upholstery layers from the frame.

Needle-punched polyester batting was used only on the front border of the seat to recreate the appropriate shape. The batting was simply placed where needed and held there by friction.

To reduce damage to the frame from metal fasteners, we modified the original method of attachment.

The under cover and new show cover were secured to the frame with fabric-covered Nomex sewing strips. These strips were secured to the tacking edges of the frame using as small and as few tacks as possible and the previous tack holes. Washed soft Tyvek was used to create an undercover for the seat, inside back, and inside arms. The Tyvek will act as a barrier against the migration of remaining soils from the old upholstery materials to the new show cover fabric. The Tyvek undercover and pieces of heavier Mylar cut to shape were also placed over the outside back jute cloth to provide a barrier.
The reproduction fabric and trim were made to our specifications by the Antico Setificio in Florence [1]. The colour was chosen with input from the Soprintendenza [2] to match an unfaded, hidden area. The new emerald green fabric is oriented and seamed in the same way as the original and includes the “patchwork” effect on the seat [Fig. 5]. The new fabric was applied by stitching it to the sewing strips, while the new trim was applied using stripes of heat activated BEVA film and a heated spatula. Three splints of Plexiglas were inserted under the seat between the webbing and the wooden frame to give the sagging seat more volume.

Although, initially, we were not entirely convinced of the choice of colour for the fabric as it seemed very bright in a room of vague shades, after the sofa was redisplayed in the Sala Studio, we noted that the colour was in harmony with the rest of the décor after all [Fig. 6].
Problematic shattered silk seats: An example of a logistical compromise

These two walnut open armchairs with carved back and seat are upholstered in a damask with yellow silk warps and beige cotton wefts woven in a floral and vegetable design. The wooden structures are of the mid 18th century and presumably come from a Venetian workshop. The fabric dates from the Acton era. These chairs were historically placed to the left and right of the sofa.

During the Acton era reupholstering they were overstuffed. As a result of this and because of the poor quality of the damask, they deteriorated and exhibit tears and loose threads and exposed cotton padding.

Fig. 6: Sofa, after treatment, Sala Studio
The silk warp was completely missing from most of the fabric. The cotton wefts were loose and at risk of catching and breaking. Some parts of the fabric had been glued in the past, perhaps by staff later in the Acton era. Under the show cover fabric of one seat was a huge glued patch so dark and stiff that it became an upholstery treatment priority.

In evaluating the choice of conservation treatment versus using a substitute fabric, the satisfying results obtained in similar cases convinced us to opt for conservation. As the losses were so vast, we partially dismounted the front tacking which had been mechanically stapled in place. Because these chairs are slip-in chairs it was possible to remove the seat. The fabrics and the structures were vacuumed under low-suction. We removed the glued patch with aqueous contact cleaning. With the help of a layer of Mylar, we slipped a dyed linen fabric under the entire show cover. The loose wefts were progressively tidied up while the fabric was covered with a piece of maline held in place by pins. The maline tulle, dyed to blend with the pale yellow silk, was secured by stitching it to the reverse of the slip-in seat. The seats were reassembled using the same method of mechanical stapling, but with fewer points of anchorage [Fig.7].

*Fig. 7: Chair, before and after*
An example of a partial replacement: A crimson taffeta cushion with a heraldic tapestry front

This oval-shaped cushion was treated after the sofa with similar considerations in mind. The front cover is a fragment of tapestry depicting a heraldic shield. The back and sides are upholstered in crimson silk taffeta that was pleated along the entire thickness of the cushion. The horsehair padding is encased in a beige cotton canvas lining. The stitching was done by machine except for the basting used to create the folded pleats in the taffeta. The tapestry fragment was in good condition except for some open slits.

The crimson silk taffeta cover was desiccated, very degraded, tattered, split in every pleat fold and extremely fragile. We decided to replace the taffeta, mostly because of the mechanical impossibility of both stabilizing it and recreating pleated structure.

After vacuuming the silk through net, we made diagrams of the sections and seams and dismounted the parts and vacuumed them again. The tapestry slits were secured by sewing. A new, specially-dyed taffeta was prepared. It was cut according to the original scheme (an oval and rectangles for the 7 lateral sections), pleated and basted like the original, reassembled in its entirety, and joined to the oval tapestry piece. The seams on the new fabric were made by machine. The stitching that affected the tapestry was done by hand. In this case, replacing one part of the cushion did not change the overall effect because we were able to match the colour, sheen, and construction of the taffeta and the heraldic tapestry still comes across as the focal point [Fig. 8].

An example of a more minimal intervention: The red damask cushion

This rectangular pillow with tassels is upholstered with red damask with crimson red velvet trim and red satin on the back side. The front cover fabric showed long tears from broken warps and abraded areas.

Fig. 8: Cushion, before and after
with warp losses. The undercover fabric exhibited large areas with warp losses and exposed and tangled wefts. The internal border of the trim was fragile with small losses. Two of the tassels, mounted with a cord string to the cushion, were only loosely attached to it. The fragile areas were consolidated by slipping in some silk crepeline (pre-coated with adhesive) behind them. We also used layered and couched stitches of organzine (organzino) silk thread to secure the loose wefts and warps. After tidying the bare wefts, the back fabric was covered with dyed polyester maline net. The fragile border of the trim was stabilized with adhesive coated dyed silk crepeline. One tassel was reinforced by inserting cotton threads into its structure. The other received a new cord, prepared with the same technique and with similar materials and colour.

Conclusion

In this room, which had suffered from various roof leaks, during the renovation of the building that was completed in 2001, the wall fabric was replaced with custom fabric made by the Antico Setificio Fiorentino. Concurrent with the upholstery work in this room, the painting was treated by our U.S. colleague Jean Dommermuth. She used a combination of dry pigments and pastel to conceal the water stains – unusual choices, but appropriate ones for a severely underbound, unvarnished and water-sensitive distemper surface. With the conservation of these objects and the recently treated and re-installed tapestry, Verdure with Birds on a Balustrade (Flanders, Oudenaarde(?), circa 1550-1575), the Sala Studio of Villa La Pietra has regained an appearance that represents the Acton home at its best. Unlike in many museums, we are less interested in restoring the original state of the objects than in preserving the atmosphere of the collection as a whole-- including signs of the passage of time. Conservation of the upholstery and textiles requires us to consider how an object was used since, in a sense, we are also preserving the social biographies of these objects. The entire Acton Collection can be seen as a work of art in itself and our conservation challenge is to always keep this in mind.

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Endnotes:
[1] The Antico Setificio in Florence is an extraordinary textile weaving company which can provide custom-made fabrics. Though expensive, their products are relatively accurate reproductions of historic textiles partly because of their use of traditional looms. Furthermore, they are responsive to very specific technical requests.
[2] Since 1986, the Acton Collection has been listed as Italian national cultural property. Representatives from the Ministry of Culture oversee conservation projects at Villa La Pietra.

References:

*All photographs are courtesy of Claudia Beyer.*

**Materials:**

**Orgazine silk yarn**  
Mieli Walter s.p.a.  
Via Manzoni Alessandro, 38  
20121 Milano  
+39-02-781831

**Linen Bellora 315**  
Galanti s.r.l.  
Via Senna, 40-42 Pad. B  
50010 Osmannoro - Sesto Fiorentino (FI)  
+39-055-374303

**Silk Krepeline**  
CTS  
Via L.Gordigiani n. 54 int. A1-A2  
50127 Firenze  
+39-055-3245014

**Custom made fabric**  
Antico Setificio Fiorentino s.p.a.  
Via L. Bartolini, 4 50124 Firenze  
Tel +39-055-213861

**Maline nylon net**  
Novik Sales Corp  
84 Atlantic Avenue  
Lynbrook, N.Y., 11563  
U.S.A.  
+1-516-599-8678

**Nomex® Aramid Paper- (a nylon paper)**  
DuPont  
P.O. Box 80023  
Wilmington, DE 19880, USA  
+1-800-441-7515.

**Softwrap® - Tyvek®**  
Masterpak™  
145 East 57th Street  
New York, New York 10022  
+1-800-922-5522

**Mowilith DMC-2, polyvinyl acetate resin**  
Bresciani s.r.l.  
Via Socrate 71.3  
20128 Milano
Claudia Beyer has 20 years of experience in textile conservation. Beginning with a degree in textile manufacturing and analysis, specializing in traditional weaving and historic textile techniques. Claudia Beyer pursued the study of textile conservation through training programs at the Stadtmuseum in Munich and at the Bayerischen Landesamt fuer Denkmalpflege in the castle of Seehof in Bamberg. At the castle of Nymphenburg in Munich she gained experience with upholstery conservation while treating a coronation carriage. In 1994 she was awarded the Carl Duisberg Society Scholarship to develop experience with tapestry conservation. From 1995 to 1999, at the laboratory of the OPD in Florence she collaborated on the treatment of several Italian tapestries including two from the series Stories of Joseph. Since 1999 she has been working with Costanza Perrone Da Zara for the Uffizi Gallery, Palazzo Davanzati, Palazzo del Quirinale, and on the textiles in the Acton Collection for New York University. (Claudia Beyer, Restauro Tessile di Beyer e Perrone Da Zara snc, Via Paolo Mascagni, 4, 50124 Firenze, Italia, restaurotessile@gmail.com)