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From Mummies to Modern Dress: Adhesive Treatments in Textile Conservation at the Museum of Fine Arts, Boston

Joel Thompson and Masumi Kataoka

(biographies and contact information for authors can be found at the end of this paper)

Abstract

The Textile Conservation Lab at the Museum of Fine Arts in Boston, Massachusetts has been investigating innovative ways to safely use adhesives and consolidants during conservation treatment for artifacts in the Textile and Fashion Arts Collection. This paper will present the thought processes and practical application of adhesives during the conservation treatments of seven objects: fragile linen wrappings from an Egyptian mummy; desiccated cotton cording from an Indian necklace; a Native American hide shirt with loose hair locks and previously infested ermine tassels; sails from mid-18th-century ship models; the delamination and breakage of raffia appliqué on a contemporary costume; the consolidation of powdering silk embroidery threads; and the consolidation of a linen plain weave canvas. The treatments discussed range from minimally invasive aesthetic compensations to structural reinforcement. Described will be the type of adhesive selected [specifically wheat starch paste, poly(vinyl alcohols), cellulose ethers, and acrylics], the customization of the adhesive for optimal performance per treatment, and the finessing of the application method for success of the treatment. The paper highlights the decision-making processes involved when balancing the needs of an individual object and the degree of intervention required for both its physical stability and an understanding of its original intent.

Titre et Résumé

Des bandelettes de momies aux vêtements modernes : la restauration des textiles au moyen d'adhésifs au Museum of Fine Arts de Boston

Les chercheurs du laboratoire de restauration des textiles du Museum of Fine Arts de Boston, au Massachusetts, étudient de nouvelles méthodes qui permettent d'utiliser sans danger des adhésifs et des agents de consolidation lors du traitement de restauration des objets de la collection des textiles et des arts de la mode. Le présent article porte sur les processus de réflexion associés aux travaux de restauration de sept objets, et plus particulièrement sur les applications pratiques des adhésifs dans ces cas précis. Les sept objets sont de fragiles bandelettes de toile de lin d'une momie égyptienne, un cordonnnet en coton desséché provenant d'un collier indien, une chemise de cuir d'origine amérindienne comprenant des mèches de cheveux mal assujetties et des glands en hermine déjà dégradés par des insectes nuisibles, les voiles d'une maquette de navire datant du milieu du XVIII^e siècle, un appliqué en raphia de costume contemporain dont les couches ont subi un décollement et une rupture, ainsi que les fils pulvérulents d'une broderie de soie et une armure toile de lin qui, dans ces deux derniers cas, doivent être consolidés. Les divers traitements envisagés vont des techniques de remplacement d'éléments esthétiques ayant des effets invasifs minimaux à des mesures de renforcement de la structure de l'objet. L'article comprend, entre autres descriptions, celles des

types d'adhésifs choisis [plus particulièrement, la colle d'amidon de blé, des poly(alcools de vinyle), des éthers cellulosiques et des acryliques], de l'adaptation des propriétés des adhésifs afin d'obtenir des conditions de traitement optimales et de la mise au point très précise de la méthode d'application afin d'assurer le succès du traitement. Il souligne aussi l'importance des processus de prise de décisions lorsqu'il faut équilibrer les besoins propres à un objet donné et le degré d'intervention requis pour assurer sa stabilité physique et une compréhension nette de sa fonction d'origine.

Introduction

The Gabriella and Leo Beranek Textile Conservation Lab at the Museum of Fine Arts, Boston (MFA) has been developing successful methods for using adhesives and consolidants during conservation treatment. This has been driven by the increasing demand to treat a wider range of materials often encountered with contemporary textile and costumes, mixed media objects and ethnographic artefacts.

In textile conservation, use of an adhesive on an object has been conventionally considered only when traditional stitching methods are not possible, and has been generally discouraged due to the irreversibility of adhesive treatments to fibre (Hillyer et al 1997). However, practical experience has shown that adhesive treatments can be more compatible with the nature and condition of an object and therefore a more effective and less invasive treatment option.

This paper will present seven case studies of recent conservation treatments that involved the use of adhesives in the lab: fragile linen wrappings from an Egyptian mummy, desiccated cotton cord from an Indian necklace, a Native American hide shirt with loose hair locks and previously infested ermine tassels, a mid-18th century ship model with brittle sails, the delamination and breakage of raffia appliqué on a contemporary costume, and the consolidation of powdering silk and linen yarns. The adhesives discussed range from natural adhesives like wheat starch paste to synthetic adhesives with good aging properties like cellulose ethers, poly(vinyl alcohols) and acrylics (Down et al 1996; Pretzel 1997; Shashoua 1995). In each case study, the decision making process as well as the practical application of the adhesive will be summarised. For the success of the treatment, customisation of the adhesive application method (the choice of adhesive, substrate, and application and reactivation methods) in response to the nature and condition of the object was key.

Case Studies

Repair and stabilisation of Ptolemaic Dynasty grain mummy



Figure 1. Grain mummy with fragile linen wrappings stored in its wood case, before treatment (2006.1249) (©MFA, Boston).

Description

The first case study involves the repair and stabilisation of extremely fragile and damaged linen wrappings belonging to a Ptolemaic Dynasty grain mummy (MFA 2006.1249) (see Figure 1). The mummy, dated 330-30 B.C., is in the form of Osiris and is made of clay, barley, and wax with linen wrappings. It measures 40.6 x 11.4 x 6.4 cm.

Rationale

Traditionally, at the MFA, wrappings with extensive damage that were to be exhibited were encased in fine, sheer fabric - an effective treatment, but one that visually obscures subtle surface detail. Adhesive treatments had been used on mummies in the past but were rare and were limited to the use of heat-set-adhesive-coated threads or other minimal supports. The wrappings around the grain mummy were extremely brittle. Individual adhesive coated threads would provide insufficient support and could damage the brittle lifting flakes of linen. Patch supports would be impossible to position due to the level of manipulation they would require and the extreme and irregular delamination of the linen layers. Normally the textile lab would refrain from using adhesives on archeological material, however, in order to prevent further losses to the wrappings and to display this object as the curator intended, a more interventive, but gentler, adhesive approach was needed.

Application

It was determined, through experimentation with aged Egyptian linen samples from the lab's study collection, that a very carefully controlled humidification of the linen in addition to the application of a fairly dry wheat starch paste worked very well to lay the fragments in place with no discolouration or creation of tidelines. Wheat starch paste was chosen as the adhesive best suited to this treatment due to its long-term stability, handling properties, compatibility with linen, and its matte appearance when dry.

Loose fragments of linen were humidified using a mist of deionised water at ambient temperature applied with a Preservation Pencil attached to an ultrasonic humidifier. Moisture was very briefly applied using the smallest tip of the pencil, just until the linen was softened but not saturated. The softened fragments could then be moved into position. Humidification was followed by the application of wheat starch paste. Paste was first applied to a piece of blotting paper to remove any excess water, and minimal amounts were placed on the underside of lifting fragments with a small fan brush. The loose fragments were held gently against the linen layer below until the paste had set. Small sections were laid down each day and air dried overnight to insure a stable bond before continuing with the consolidation. The results were extremely positive, the linen responded very well to the combination of gentle moisture and paste (see Figure 2). Most importantly, the prior humidification of the linen softened the fibre and made it possible to use less water throughout the treatment.



Figure 2. The mummy wrappings before treatment (top) and after treatment (bottom). To stabilise the wrappings, small amounts of wheat starch paste were carefully applied to the underside of the brittle lifting linen flakes using a small fan brush. Care was taken to use minimal water.

Stabilisation of cotton cord of the 19th century Indian necklace

Description

An Indian necklace (MFA 19.350), consisting of resin-filled gold ornaments (Derrick 2010, 19.350), silk tassel and braided cotton cord was treated in a joint effort between the object and textile conservation labs (see Figure 3). The cord was broken into three pieces and required stabilisation. The cord is partially wrapped with a metallic thread, and the breaks occur where the wrapping begins due to differences in tightness in the cord. Clearly, the cord no longer had enough strength to hold the heavy gold ornaments



Figure 3. A photograph of the Indian necklace before treatment (19.350). The cord was three pieces (the red arrows indicate the breaks). The metallic thread is tightly wrapped around the cord at some sections. The differences in tightness in these areas were likely to have caused the break.

Rationale

For its safe handling and display, a treatment was designed that would rejoin the cord while providing a passive support for the broken areas. The mechanically fragile state of the fibre did not permit an invasive treatment, such as inserting a thread to bridge the break, or directly adhering the broken ends together.

Application

First, a narrow strip of medium weight Japanese paper (HM-36 Senka-Shi Medium) toned with acrylic paint was placed under the broken section; and secured to the cord by wrapping another thin cut strip of toned lightweight Japanese paper (W-1 Tengucho) around it. The paper was wrapped diagonally at intervals of 2-3 mm, following the grain of braiding; and adhered only to the underlaid paper at the intersections using wheat starch paste (see Figure 4). Next, a mixture

of paper pulp, methylcellulose and dry pigment was applied to the break to bridge the gap and encapsulate the torn yarns. To prepare the mixture, fibres of paper pulp were well separated and smoothed out by mixing with a small amount of deionised water. A minute quantity of 20% methylcellulose in deionised water and dry pigment was added to the wet pulp. A weaker application on adhesive was preferred, to approximate the mechanical strength of the cotton. The use of paper pulp also reduced the amount of adhesive required to fill the gap. This treatment was designed on the premise that proper storage and handling via moulded tray would be ensured; the cord is still far too fragile to be manipulated or take the heavy weight of the gold ornaments.

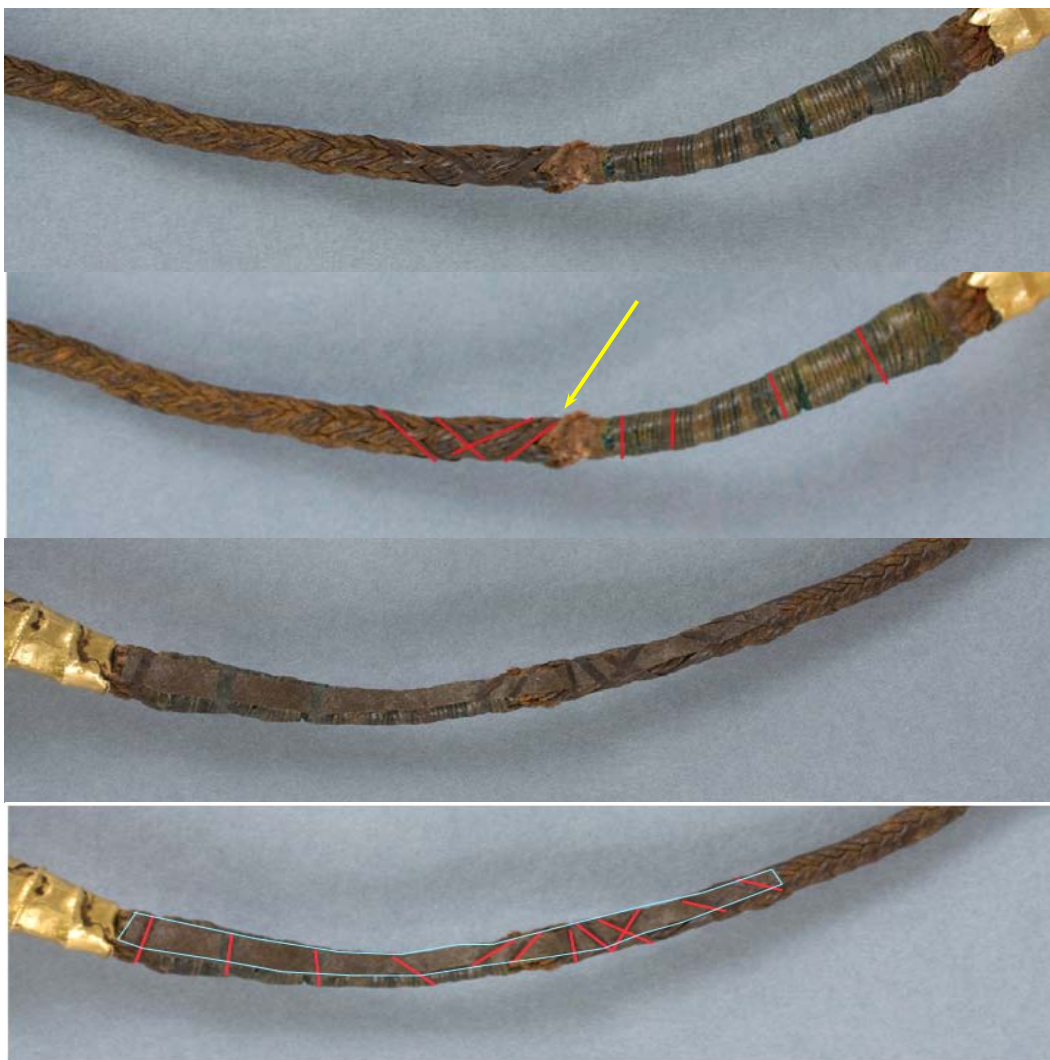


Figure 4. Photographs showing the front after treatment (top two images) and the back of the same area after treatment (bottom two images). The coloured lines show the location of the paper strips. Here, the underlaid support paper strip extends around 2.5 cm to both sides from the break and is 2.5-3 mm wide. The underlaid paper strip was secured to the cord by wrapping another fine strips of Japanese paper (1.5 mm wide) around: wheat starch paste was applied at the intersections of the two papers and not to the object. The yellow arrow indicates where the paper pulp /adhesive mixture was applied.

Stabilisation and aesthetic compensation of ermine tassels and hair locks on the late 19th century Lakota hide shirt

Description

The Native American, Lakota hide shirt (MFA 1991.962) is constructed of tanned deerskin, and is decorated with glass beads, ermine fur tassels, human hair locks, cotton fabric, and silk ribbons (see Figure 5). The ermine fur tassels were made of a cut rectangular piece of fur from the body of the animal, sewn into a tube; and a bundle of short black animal hairs inserted at the end. Each hair lock consists of a bundle of long hairs and short leather thong, which are tied with orange-coloured sinew thread at the top. The ermine tassels and hair locks had been infested and suffered severe structural and visual losses possibly from previous inadequate storage, and required a conservation treatment.

Rationale

The insect damage on the ermine tassels and hair locks made them appear less cared for; therefore, the curator requested both a stabilisation treatment and visual compensation of the losses. At the MFA, as with many fine art museums, it is undeniable that a visual improvement is often an expected outcome of conservation treatment. However, conservators are also equally sensitive to an object's intangible cultural and historical value and try to be reflective when making decisions on conservation treatments that might alter the appearance of an object or affect its original intent or function. Because our decisions with this object were based only on our assumptions and understanding of the object and not from consultation with the Native community (Chang and Heald 2005), the treatment was designed to be easily and safely reversible and minimally interventive. As with previous case studies, the nature and condition of the materials dictated the adhesive chosen and how it was applied.



Figure 5. A photograph showing the Lakota hide shirt, reverse (1991.962) (©MFA, Boston).

Application

The ermine tassels were locally humidified to realign any deformation. While still humidified, a thin coat of 1: 1 wheat starch paste and 4% methylcellulose in deionised water (w/v) was brushed onto the skin around the edges of the losses. Then, small torn pieces (approx. 5 mm x 5 mm) of Japanese paper (HM-1 Tengucho) toned with acrylic paint were adhered over the losses (see Figure 6a). The initial humidification ensured less mechanical stress to the skin during the adhesive application. The addition of methylcellulose made the starch paste more flexible, smoother, and more sensitive to moisture (Baker 1990). An initial mockup experiment indicated that the moisture sensitivity of the mixture is proportional to the content of methylcellulose. Increasing the content of methylcellulose also resulted in creating a weaker bond. The modified properties of the mixture were advantageous for its controlled application, as well as its future reversibility.

With the hair locks, loose hairs were collected and sandwiched between two narrow strips of toned Japanese paper (HP-04 Usu Mino Thin) with fresh undiluted wheat starch paste (see Figure 6b). After drying the paste, the paper strip with the hairs was secured to the sinew tied at the top with a dot of 7% Klucel G in deionised water (see Figure 6b). Klucel G was applied to the paper, not to the sinew. The treatments improved both physical stability and appearance of these fragile insect damaged elements.

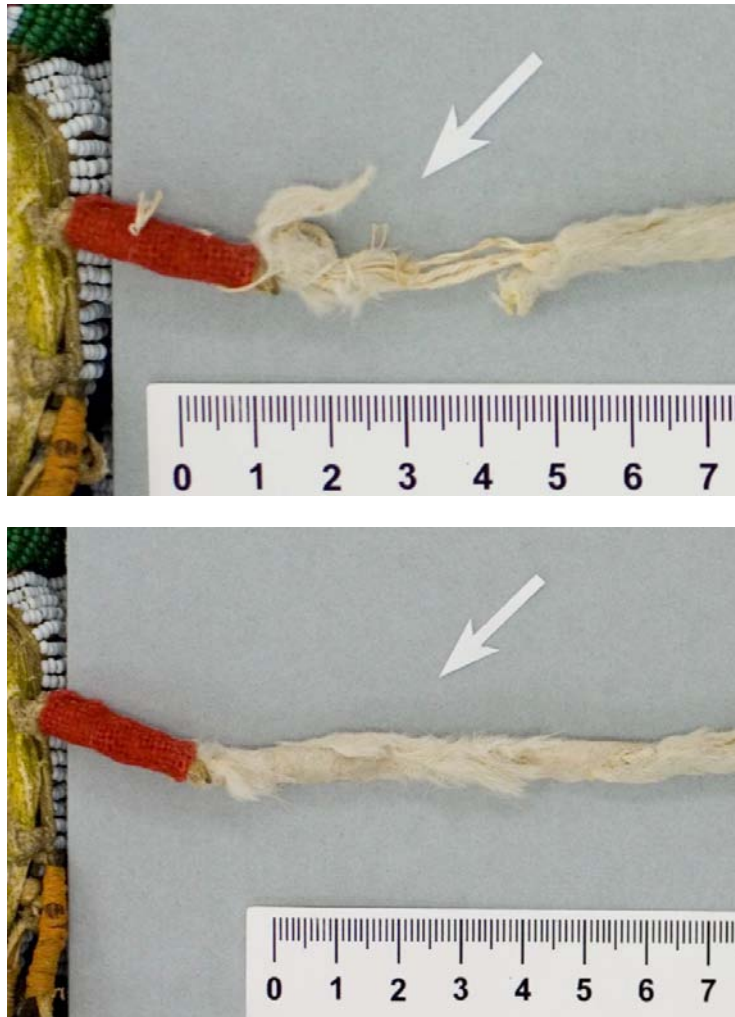


Figure 6a. The ermine tassel before treatment (top); the same tassel after the treatment (bottom). Small torn pieces of toned Japanese paper were layered, starting from the edges of the loss and working inward, to create a hollow, three-dimensional, translucent patch that mimicked the appearance of the soft fur.



Figure 6b. Loose detached hairs secured between Japanese paper strips (top); and (bottom) the area showing the Japanese paper strip wrapped securely around the sinew (see arrow) and attached to itself with a dot of Klucel G.

Stabilisation and aesthetic compensation of losses in the mid-18th century ship model sails

Description

This ship model is a fully rigged French corvette from 1775 (MFA 32.184) with original sails and rigging (see Figure 7). The sails are cotton; the stitching thread is silk and the rigging is made from linen cording. The cotton fibres of the sails are extremely brittle and fracture easily with any movement. The silk and linen components are equally fragile. As a result, the sails have tears, splits and losses (see Figure 8).



Figure 7. A model of a fully rigged French Corvette, 1775, before treatment.

Rationale

The incredibly fine, sheer fabric used for the sails was far too brittle to withstand stitching and the sails were not removable for overall lining. A method was sought that would be virtually invisible from the front, support the sails, and be applied in situ. A combination of Lascaux adhesives was chosen for the patches. The Lascaux mixture made a soft, but strong, adhesive patch that was applied using only gentle heat and finger pressure, a plus for the sometimes awkward working angles presented by the in situ treatment.

Application

To make the patching fabric, the previously dyed silk crepe line was laid out on a Teflon work surface and secured at the perimeter with pressure sensitive tape; a 20% solution of Lascaux 360HV and 498 HV mixed 1:1 w/v in deionised water was applied using a fan brush. The crepe line was brushed repeatedly with a clean brush to distribute the adhesive as evenly as possible until dry. Small patches were applied to the damaged areas on each sail using a heated spatula and finger pressure. The slightly tacky quality of the Lascaux helped to temporarily hold the patches in place during heat reactivation. Very little pressure could be applied, as the sails are extremely brittle and prone to splitting; since a light touch was essential, the temperature needed to be optimal. For this treatment a heated spatula was used at 50°C and very gently

touched to the surface of the textile. Where the sails were in contact with sharp areas of rigging or spars, and in need of further strengthening, the crepeline was applied to both sides of the sail.

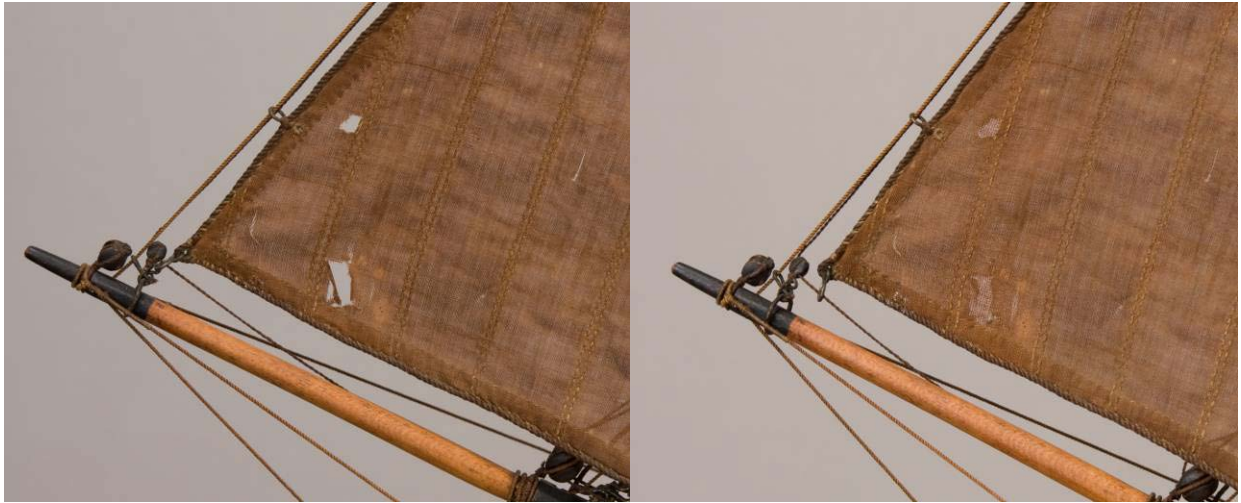


Figure 8. Details, the front of the jib sail before and after treatment (top left and right). Small pieces of fine sheer cotton were dyed, coated with adhesive, and shaped to fill the losses in the brittle sails. Heat reactivated Lascaux coated silk crepeline was used to secure the fills in place and stabilise split areas on the front and back of the sail.

Losses were filled with shaped pieces of custom dyed cotton of similar weight and transparency. The cotton was also brushed with the Lascaux mixture so it could also be heat reactivated and to allow for precision shaping with scissors. Lastly, fills were covered with a second piece of adhesive-coated crepeline to fix them in place. The sandwiching of the fill fabric was an effective way to add strength to the repair and blend the fill with the original sail (see Figure 8).

Stabilisation of the woven raffia appliqué of the 1970s woman's ensemble

Description

A 1970s ensemble designed by couturier, Arnold Scaasi, was treated prior to dressing on a mannequin for display. The ensemble (MFA 2009.4083.1-4) consists of a wool jacket trimmed with mink fur, a wool dress, and a mink fur hat and muff (see Figure 9). The dress has a further decorative detail on the bodice, to which flowers of woven raffia appliqué, rhinestones and beads are sewn (see Figure 10). The appliqué is a multi-laminate structure of open plain weave cotton fabric, a film of processed starch (dextrin) (Derrick 2010, 2009.4083.1-4), and woven raffia. The ensemble was in good condition overall; however the stiff raffia, being incompatible with the three-dimensional form of the dress, has suffered bending, breakage and delamination from the cotton substrate (see Figure 10). The cotton substrate was fraying wherever the raffia was detached; and the starch film had also become extremely brittle with numerous cracks.

Rationale

To prevent further breakage and improve the visual appearance, the broken appliqué was stabilised prior to its display. Considering the nature and construction of the appliqué and the potential mechanical damage to the brittle starch film by stitching, adhesive treatment was chosen. As distinctly different layers, the raffia and cotton substrate required separate treatments. Since most of the damages were limited to individual areas of appliqué, the treatment was done *in situ* without releasing the stitching.



Figure 9. An overall photograph of the ensemble (2009.4083.1-4) (©MFA, Boston). The ensemble was custom made for American actress, Barbra Streisand by American couturier, Arnold Scaasi in the 1970s.



Figure 10. The area of the bodice with broken raffia appliqués before treatment (left); and the same area after the treatment (right). The locally applied Japanese paper patches stabilised and visually compensated the broken raffia appliqués.

Application

Firstly, a small amount of deionised water in ambient temperature was locally applied to the surface of the appliqué, using the Preservation Pencil connected to a humidifier. The starch film, bent raffia and frayed cotton were realigned without introducing much stress. Secondly, the frayed cotton backing was locally secured onto Stabiltex coated with 15% Lascaux 498HV in deionised water (w/v) (two coats by brush on polyethene casting bed). The underlaid adhesive patch was reactivated by a heat spatula set at 90°C; and set by gentle pressure introduced from the top, using a small dental spatula. Thirdly, the broken raffia was repaired with adhesive-coated toned Japanese paper strips (W-1 Tengucho), prepared in the same manner as the Stabiltex patch. Where raffia was missing, a piece of thicker, colour-matched Japanese paper (HM-36 Senka-Shi Medium) was adhered to the stabilisation patch to compensate the loss. Again, the 15% Lascaux solution was used, however, due to the limited surface area, it was more successful to reactivate the adhesive with acetone applied by brush. Finally, loose raffia strips were re-adhered to the cotton substrate with undiluted Lascaux 498HV (see Figure 10).

Consolidation of powdering fibres

Description

The last case study involves two consolidation treatments done in the same method: the embroidery silk threads on a Spanish Colonial leather trunk (MFA 15.842) and the tacking margin of the linen canvas of the mid-18th century American embroidered picture (MFA 44.750). The fibres in both cases had degraded to the point of powdering and were extremely mechanically weak. The trunk was constructed of a wood frame and pierced and tooled sheets of leather embroidered with sisal and silk threads. The silk yarns on the trunk were faded, splitting and powdering – they were in far worse condition than the other embroidery threads. The edges of the linen canvas of the American embroidery were extremely brittle and flaking. Extensive losses were present already on both objects and handling even during treatment was difficult or impossible without incurring further damage.

Rationale

A method was sought to prevent further losses and strengthen what remained. To achieve this, an adhesive was chosen to consolidate the fibres. Klucel G was chosen for this purpose because it is flexible, matte and miscible in solvent. A 2% solution of Klucel G was mixed 95: 5/ ethanol: deionised water w/v to prevent any discolouration from migration of degradation products and soiling. The predominance of ethanol made the solution dry quickly without spreading adhesive or creating tidelines. It should be noted that since organic solvents can discolour or dissolve certain dyes (Timar-Balazsy and Eastop 1998), the blue dye was tested for colour fastness in both water and ethanol before consolidation.

Application

The consolidant was applied to the yarns individually by fine brush under magnification. For the blue silk yarns, two applications of adhesive were necessary to strengthen and realign the fibers. The linen canvas also received two applications where it was hemmed, one from the face and one from the reverse; however one application was sufficient in un-hemmed areas. In both cases the consolidation with Klucel G was successful at strengthening the fibres so they could withstand some manipulation. Powdering was no longer a problem after treatment and there was no visible change in appearance due to the addition of an adhesive (see Figure 11).



Figure 11. Top: a detail of damaged silk yarns on the Spanish Colonial trunk before (left) and after consolidation (right). Bottom: a photo macrograph of the margin of the linen of mid-18th century American embroidered picture before (left) and after consolidation (right). In both examples there was essentially no visible change, but the mechanical stability was greatly improved.

Conclusions

The case studies above demonstrate how fairly simple adhesive treatments can be modified and refined to achieve success with very fragile or complex textiles and textile related material. The success of these treatments is due to subtle adjustments in the application method, a careful understanding of the objects' surface, and the selection of an appropriate adhesive and substrate.

The challenge when using adhesives in conjunction with textiles is to make these virtually irreversible treatments successful without imposing noticeable changes in the flexibility, appearance, and feel. Many of the case studies show that the choice of an adhesive, when customised to the object's needs and treatment objectives, can provide effective support while creating a pleasing visual and tactile result. Though the treatments use readily accessible materials and tools, they demonstrate the importance of subtly tailoring the application method to greatest advantage - therein lies the success.

Acknowledgements

The authors would like to thank their colleagues at the MFA, particularly to Meredith Montague, Head of Textile Conservation, Claudia Iannuccilli, Associate Conservator, and Allison Murphy, Collections Care Specialist, for their tremendous support and encouragement. The authors are also thankful to Pamela Parmal, David and Roberta Logie Curator of Textile and Fashion Arts for her great understanding during these conservation projects; and Michele Derrick, Schorr Family Associate Research Scientist, Scientific Research for conducting scientific analyses.

References

- Baker, C. "Polyester Screen Material: Uses in the Paper Conservation Laboratory." *Paper Conservation News* 55, (1990), p. 11.
- Derrick, M. 19.350, *Scientific Research Exam: Analysis*. Boston: Museum of Fine Arts, Boston, 2010. Unpublished.
- Derrick, M. 2009.4083.1-4, *Scientific Research Exam: Analysis*. Boston: Museum of Fine Arts, Boston, 2010. Unpublished.
- Down, J. L., MacDonald, M. A., Tétreault, J., Williams, R. S. "Adhesive Testing at the Canadian Conservation Institute: An Evaluation of Selected Poly(Vinyl Acetate) and Acrylic Adhesives." *Studies in Conservation* 41, (1996), pp. 19-44.
- Chang, L. and Heald, S. "Documenting and implementing conservation requests from Native communities." pp. 9-17 in *Postprints of Papers presented at the Textile Specialty Group Session, 33th Annual Meeting American Institute for Conservation of Historic and Artistic Works*. Washington, DC: American Institute for Conservation, 2005.
- Hillyer, L., Tinker, Z. and Singer, P. "Evaluating the Use of Adhesives in Textile Conservation: Part I, An Overview and Surveys of Current Use." *The Conservator* 21, (1997), pp. 37-47.
- Pretzel, B. "Evaluating the Use of Adhesives in Textile Conservation: Part II, Texts and Evaluation Matrix." *The Conservator* 21 (1997), pp. 37-47.
- Shashoua, Y. "Cellulose Ethers for Textile Conservation." pp. 1-5 in *Proceedings of Starch and Other Carbohydrate Adhesives for Use in Textile Conservation: Papers of One-Day Meeting, London, 2 November 1994*. London: United Kingdom Institute of Conservation. Textile Section, 1995.
- Timar-Balazsy, A. and Eastop, D. *Chemical Principles of Textile Conservation*. Butterworth-Heinemann, Oxford, 1998.

Materials and Suppliers

Acryloid B72 (ethyl methacrylate copolymer)
supplier: Talas (<http://talasonline.com/>)

Japanese papers
(HM-1 Tengucho, W-1 Tengucho, HM-36 Senka-Shi Medium, HP-04 Usu Mino Thin)
supplier: Hiromi Paper, Inc. (<http://store.hiromipaper.com/>)

Klucel G (hydroxypropylcellulose)
supplier: Talas (<http://talasonline.com/>)

Lascaux 360 HV (butylacrylate, methyl methacrylate copolymer)
supplier: Talas (<http://talasonline.com/>)

Lascaux 498 HV (butylacrylate, methyl methacrylate copolymer)
supplier: Talas (<http://talasonline.com/>)

Methyl cellulose (methylcellulose)
supplier: Talas (<http://talasonline.com/>)

Nori Wheat Starch Paste (packed ready to use wheat starch paste)
supplier: Hiromi Paper, Inc. (<http://store.hiromipaper.com/>)

Preservation Pencil, Model 805-0001
supplier: Univeristy Products (<https://www.universityproducts.com>)

Silk Crepeline (sheer, lightweight, open weave 100% silk fabric)
supplier: Testfabrics, Inc. (<http://www.testfabrics.com/>)

Stabiltex (Tetex-TR) (sheer, lightweight, open weave 100% polyester fabric)
supplier: Testfabrics, Inc. (<http://www.testfabrics.com/>)

Author Biographies and Contact Information

Joel Thompson is an Associate Textile Conservator at the Museum of Fine Arts in Boston, Massachusetts, where she has worked for the past 8 years. She has an MA and a Certificate in Art Conservation from Buffalo State College (Buffalo, New York), where she specialized in the conservation of archeological and ethnographic objects. She fulfilled her internship requirements at the Rhode Island School of Design Museum (Providence, Rhode Island), The Field Museum (Chicago, Illinois), and two archeological sites in Central Turkey. Prior to joining the Museum of Fine Arts, she held positions as Exhibits Conservator at The Field Museum and as Conservator of Textiles and Objects at the Chicago History Museum.

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Masumi Kataoka is currently working in the Textile Conservation Lab at the Museum of Fine Arts in Boston, Massachusetts, on a 3-year fellowship funded by the Sherman Fairchild Foundation. She has an MA in Textile Conservation from the Textile Conservation Centre, University of Southampton, United Kingdom (2008), and a BA in Weaving and Dyeing from the Kyoto City University of Arts, Japan (2006). During her studies, Masumi completed a 3-month internship at the Tapestry Conservation Project Committee, Japan (spring 2006) and an 8-week internship at the Detroit Institute of Arts in Detroit, Michigan (summer 2007).

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Biographies et coordonnées des auteurs

Joel Thompson est restauratrice de textiles associée au musée des beaux-arts de Boston, au Massachusetts, où elle travaille depuis huit ans. Elle est titulaire d'une maîtrise et d'un certificat en restauration des œuvres d'art du Buffalo State College (Buffalo, New York), avec une spécialisation en restauration des objets archéologiques et ethnographiques. Elle a satisfait aux exigences de son stage au Rhode Island School of Design Museum (Providence, Rhode Island), au Field Museum (Chicago, Illinois) et à deux sites archéologiques dans le centre de la Turquie. Avant d'entrer en fonction au musée des beaux-arts, elle a été conservatrice des expositions au Field Museum et restauratrice des textiles et des objets au musée d'histoire de Chicago.

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Masumi Kataoka travaille actuellement au laboratoire de restauration des textiles du musée des beaux-arts de Boston, au Massachusetts, grâce à une bourse de la fondation Sherman Fairchild d'une durée de trois ans. Elle est titulaire d'une maîtrise en restauration des textiles du Textile Conservation Centre de l'Université de Southampton, au Royaume-Uni (2008) et d'un baccalauréat en tissage et teinture de l'Université municipale des Arts de Kyoto, au Japon (2006). Pendant ses études, M^{me} Kataoka a fait un stage de trois mois au sein du comité du projet de restauration des tapisseries, au Japon (printemps 2006), ainsi qu'un stage de huit semaines à l'Institut des arts de Détroit, au Michigan (été 2007).

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