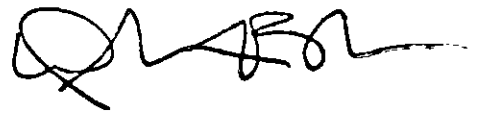

TCN



TEXTILE CONSERVATION NEWSLETTER



SPRING 1988

**TEXTILE CONSERVATION NEWSLETTER
SPRING 1988 ISSUE**

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FROM THE EDITORS

As promised, the supplementary, Mannequins for the Royal Ontario Museum Costume Gallery by Alexandra Palmer accompanies this issue of T.N.C. We would like to thank the Royal Ontario Museum for allowing us to publish the report and Alexandra Palmer for submitting it. It contains excellent and up to date information. No doubt, many people will find it extremely useful.

Additional copies of Alexandra Palmer's report are available through T.C.N. (for more information see page).

Editors Change

Colleen Willson has resigned from the position as western editor which she has held for the past four years. We thank Colleen for her dedication and support and wish her well in her new endeavours. Gail Sundstrom-Niinimaa Textile Conservator in Calgary, Alberta has returned to the editorial board. Welcome, Gail! (Please note Gail's address on last page.)

Submissions Please

The editors have been hard at work gathering articles for this issue. Interesting submissions have been received from Italy, United States and Canada, and we encourage other subscribers to submit their articles and reports. Translation services are available if required.

Deadlines for submissions are always April 30 (Spring Issue) and October 31 (Fall Issue).

TCN Index

A complete index of all TCN will be published in the Fall '88 issue.

CONSERVATION AT THE ISABELLA GARDNER MUSEUM

Writing this article for the Textile Conservation Newsletter provides me with the opportunity to thank my Canadian hosts for their hospitality and many courtesies extended to me during the workshop presented at Parks Canada in Ottawa last Summer on the "Degradation of Historic Textiles" (sponsored by IIC-CG). This narrative may reveal just how relevant and germane that workshop remains to staff facing conservation problems at the Isabella Stewart Gardner Museum, Boston, MA. Ground was broken in 1899 to start construction of the four-storey building to house the permanent collection that has been on exhibition since the Museum was finished in 1902 and opened to the public in 1903. For more than 85 years, the Gardner Museum has offered the public fine arts, music (concerts three times a week), and flowers in a unique setting which last year attracted over 159,000 visitors. It is the achievement of one person, Isabella Stewart Gardner (1840-1924), who formed the collections, designed the building and, ultimately, endowed it. Upon her death in 1924, the Museum was left "for the education and enjoyment of the public forever" and under the terms of her will no accessions may be made to add to the collection and the arrangement must remain as she left it. The collection is unusual in its diversity. Spanning thirty centuries, it includes examples of art from Egypt, the Near and Far East, classical Greece and Italy, Europe, and North and Central America, and is comprised of paintings, sculpture, furniture, stained glass, ceramics, metalwork, textiles, rare books, manuscripts, prints and drawings.

Her predilection was for the Italian Renaissance, and her vision of a museum was a Venetian palace of XVc, with three floors of galleries opening onto a central and skylit courtyard containing both seasonal displays of flowers and plants, as well as classical Graeco-Roman stone sculpture, a Roman mosaic of the second century and a Venetian fifteenth-century fountain. She herself occupied an apartment on the fourth floor in Fenway Court, as the Museum became known, until her death. Each gallery has a character of its own. The walls of some are hung with rich damask or ornately tooled and gilt leather while others have rough wood panelling and heavy beamed ceilings. First, there are the great paintings by such Dutch and Italian masters as Rembrandt, Vermeer, Giotto and Titian. To balance the paintings, rooms are filled with stone and polychrome wood sculptures; inlaid, veneered, stained and/or painted furniture; textiles including monumental tapestries (in both size and significance), laces and ecclesiastical costume. The textiles were often hung on walls or placed on tables under an array of smaller objects, as Mrs. Gardner had arranged them to reflect her concept of a grand house where people have lived for generations surrounded by things that they cherished. Built with a concept of eternity, yet rooted in the fin-de-siècle, it has the founder's forceful sense of what a museum should be. It has been noted that this arrangement affords the visitor little help in locating the objects considered most important. Often they are not given a conspicuous position and they are placed with little relation to their historical or geographical origins. The result is a set of rooms that have a personal, informal character.

Even the seal that Mrs. Gardner designed for her museum is characteristic- a shield bearing a phoenix, a symbol of immortality, and the motto - C'est mon plaisir - (It is my pleasure).

The President of the Board of Trustees recently wrote: "It (ISGM) is one of the world's greatest private collections--a Boston treasure, a New England treasure, a national treasure. The Trustees and staff of the Museum have two principal duties--to see that the Museum is used for the benefit of the public to the maximum possible extent; and to see that the Museum is protected and preserved 'forever', for this and all succeeding generations. One hundred years, one thousand years from now, this collection, comprising some of the finest and most beautiful objects produced by the hand and mind of man, must still be here to enlighten and inspire the public." These are the aspirations and dreams of the beneficiaries of Mrs. Gardner's legacy--the liabilities are the substance for many a conservator's nightmare.

The need to care for the collection has been recognized by every generation of Trustees and staff since Mrs. Gardner's death almost sixty-four years ago. Annual reports published over the preceding sixty-three years invariably mention at least one major treatment having been undertaken for either a painting or a tapestry. George L. Stout, one of the founding fathers of modern conservation, became the first conservator at the Gardner Museum in 1934, and was later to become its director (1955-1970). He installed a humidification system at the Museum shortly after he became director, long before other museums had seriously considered

the problems of climate control. Mr. Stout also established a professional textile conservation department and hired its first conservator in 1964. In tradition of protecting and preserving the collection, the Museum's administration is considering how best to upgrade conservation facilities to meet the increasing needs of a permanently displayed collection susceptible to environmental damage and to provide better climate control and storage.

The textile authority, Adolph S. Cavallo, wrote in his Introduction to the Museum's Textile Catalogue, published in 1986: for Fenway Court did not survive the ravages of time and their own inherent weaknesses. Textile materials contain physical and chemical properties that cause them to deteriorate rapidly when they are exposed to light, humidity, temperature changes and abrasion--conditions that could not be avoided if the galleries at Fenway Court were to maintain their original character." The conservation problems are at times endless for the collections, most of which were created before 1700 with a large portion dating to the Renaissance or to earlier periods. Approximately one-third of the Museum's full-time, paid staff dealing with objects, paper, and textiles. Paintings are contracted out to a conservator in private practice. Additionally, there is one position funded by a grant awarded by the Institute of Museum Services. The project coordinator, working under the supervision of the project director and conservator of objects, Ms. Barbara Mangum, and Dr. Nathan Stolow, the primary consultant, is undertaking a comprehensive survey of the Museum's environment. This interdisciplinary project has

generated interest not only within all departments of this museum but also within the museum profession at large.

As one might expect, the environmental survey is addressing those areas that one would anticipate being potential and probable sources of hazard and/or pollution. Consultants have been involved with the survey either directly or indirectly; among them have been bio-chemists, industrial hygienists and engineers, an entomologist, conservators and conservation scientists and sales representatives for equipment. The challenge will be in interpreting the data now being collected in order to find, create and implement solutions. The following narrative is an informal presentation of the diversity and nature of the survey presently underway.

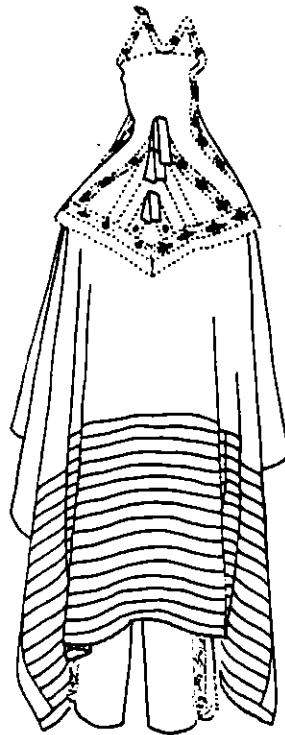
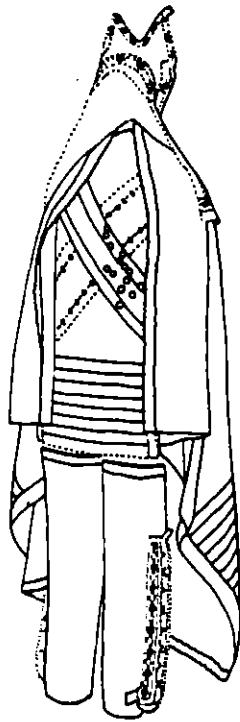
Inspections and tours have been made of the physical plant from top to bottom--from the roofs to the basement. Discussions have speculated on the nature of pollutants from the original heating system once fueled by coal and the past lack of any humidification as contributing to the present condition of many objects. The skylight is being monitored and will be more closely examined in a further study. It presently leaks. There may, in fact, be acid rain in the courtyard. The central court has been studied to determine what other growths it may be spawning in addition to the flowers--growth that may post hazards for the art collection opening onto it and contained within it. A comprehensive monitoring schedule has been formulated to collect temperature and relative humidity data at sites within the galleries and courtyard utilizing recording hygrothermographs. These are

checked for accuracy daily and recalibrated as necessary. Humidity indicating cards have been placed within some enclosed cases. Dimensional changes in wood objects and leather panels are being measured and recorded. It had been considered that a textile, such as a hanging and highly reactive tapestry, be included as part of the study but the greater complexity of the woven structure and support lining might mislead the results. "Sticky traps", non-poisonous insect traps have been discretely placed in suspect areas and in remote storage to provide evidence of the presence and species of insects or pests. Part of the survey is the monitoring of light over the seasons for both UV and visible light levels at all interior and exterior window openings. Blue wool fade cards that are monitored monthly have been placed throughout the collection. In addition, an air quality study has been undertaken to identify types and sources of pollutants both gaseous and particulate within the Museum while data is being obtained from an outdoor monitoring station that is in close proximity to the Museum. Although this information is not being presented here in a logically formatted fashion, it does indicate the broad scope of the environmental survey and suggests that there may be no simple solutions. The questions generally far out-number the answers.

With apologies to the reader who may have expected an article on textile history or conservation treatment or textiles in general, I could not resist introducing the Museum itself or mentioning some parameters of the environmental survey. An overview of this project was presented in April at a meeting hosted by the Gardner Museum for members of the New

England Conservation Association. The response, in both ideas and questions, was encouraging and seemed to indicate the interest and need for such studies. It is hoped that the findings and conclusions that will evolve and be made will be interpreted as manifestations of long-range conservation efforts which are not limited to one area of interest or expertise--nor limited to the Isabella Stewart Gardner Museum alone.

Marjorie Bullock
Conservator of Textiles
Isabella Stewart Gardner Museum
Boston, MA



**REPRODUCTION OF AN 18TH CENTURY
MALECITE COSTUME**

As previously reported in the TCN (Spring, 1985, p. 15), a rare 18th century Malecite Indian costume belonging to the New Brunswick Museum was treated in the Textile Lab at CCI. Despite its age, the costume which consists of a Hood, Cloak, Breechcloth, two sashes and a pair of leggings, was in relatively good condition. By far the greatest damage was suffered by the silk ribbons used as appliqué on all the costume pieces. Where the silk had been exposed to light for many years it had disintegrated and the remaining silk was brittle and fragmenting. The conservation treatment consisted largely of stitching a suitably coloured shear fabric (Stabiltex or crepeline) over the remaining ribbons taking care not to obscure any beaded decoration.

As is usual following the completion of the conservation treatment, recommendations were given for display, storage and handling. In this case, however, it was also strongly recommended that a reproduction of the costume be made. Several factors contributed to this recommendation.

The rarity of the costume meant that display would be an important consideration. However, the already degraded condition of the light sensitive silk ribbons and the fact that the damaging effect of light is both cumulative and irreversible meant that any such display would have to be very limited. A balance between providing access to the costume and protecting it from light was needed. Such a balance could be achieved by displaying only individual pieces of the costume for limited times in conjunction with a reproduction of the entire costume. If necessary, the reproduction costume could remain on permanent display.

Another important consideration was the fact that the condition of the pieces required flat mounting for display. All of the costume pieces except the Hood are flat textiles. Although the conservation treatment succeeded in physically securing the remaining silk ribbons, in their weakened state they were liable to fracture further if flexed or bent. This ruled out methods of display

involving bending or draping and consequently all of the flat costume pieces were mounted onto acid-free paper honeycomb panels padded with polyester quilt batting covered with a neutral coloured linen. Display and storage mounts were also made for the three dimensional Hood. Flat mounting reduced the risk of further damage to the costume pieces in display, storage and handling but it made interpretation of the costume as a whole difficult. It was anticipated that some museum visitors might have difficulty understanding how the various pieces were worn. A reproduction displayed on a mannequin would greatly help the viewer to understand and appreciate the costume.

In order to make an accurate reproduction, a list of the necessary supplies was drawn up. Over ten thousand beads, 53 metres of silk ribbon, 47 silver disc brooches, and seven metres of wool fabric was required.

A search was then made for materials which resembled these of originals as closely as possible.

Fortunately, the Textile Lab had supplies of red, blue and brown wool fabrics very similar to the tradecloth used to make the original costume. All of the costume pieces made of red stroud (ie. Hood, Cloak, Leggings and red Sash) have undyed borders along the selvages. These undyed borders, known as clamp marks, were produced by the clamps which held the fabric during piece dyeing. The clamp prevented the dye from penetrating beneath and so produced the irregular dye resisted borders. Often these borders were incorporated as part of the decoration on garments(2), in this case as the outer borders on the Cloak and the top borders on

the Leggings. A modern red wool stroud with white borders is available from Indian craft suppliers but not in the width required and so a red wool fabric was used (Passepoil #4298 manufactured by Hefti of Switzerland). This fabric was overdyed with black to tone down its brilliant new colour so that it now closely resembled the "aged" look of the original. Our facilities could not accommodate the 3.2 square metres to be dyed and so this procedure was kindly carried out by the dyer at the National Arts Centre. Clamp marks were simulated by stitching on borders of cream coloured wool. The hairsilk stitches passed beneath the nap to produce an invisible seam. Acrylic paints were used to produce the uneven scalloped areas of red on the outer edge of the clamp marks.

Attempts to locate silk ribbons of the dimensions and colours required were unsuccessful and so their appearance was simulated using silk fabric dyed in the Lab. Four of the ten different ribbons on the costume have silk and metal brocade. We decided not to try to duplicate this as it would have been much too time consuming and the plain "ribbons" made from silk fabric were considered sufficient to convey the general appearance of the original.

After much searching, glass beads which closely resembled the original tubular and pony beads were purchased and the beaded patterns, including irregularities, were carefully copied on the reproduction. Losses in beadwork on the original costume pieces were filled in on the reproduction wherever the patterns on the originals repeated regularly and no new irregularities were introduced. If there was any doubt as to what colour of bead to use, the area was left blank.

Cost estimates for having exact reproductions of the 47 silver disc brooches made were prohibitively high. Consequently copies were made from discs stamped out of aluminum at a local machine shop. Aluminum wire, flattened in a rolling mill was shaped and attached to form the tang. Although the method of manufacture was simple the reproduction brooches give the impression of polished trade silver very well.

Once mounted on a mannequin, the reproduction costume makes an impressive and informative display. Hopefully its use will help to prolong the longevity of this valuable artifact.

Jan Vuori
Textiles Division
Canadian Conservation Institute

Notes

- 1 A similar situation in which reproductions were made to protect original artifacts is described in an article by Isabella Krasuski and Cara Reeves, "All That's Bright Must Fade" Rotunda (Toronto: Royal Ontario Museum, Spring 1986), pp. 12-14.
- 2 D.K. Burnham, Warp and Weft (Toronto: Royal Ontario Museum, 1980), p. 99.

THE TREATMENT OF A TSIMSHIAN HAT

Last November a Tsimshian hat of red stroud heavily decorated with dentalium shell and abalone shell pieces was received by the Ethnology Laboratory of the Canadian Conservation Institute. An adjustable hat block was designed and constructed for support during treatment, as described in the fall 87 issue of the Textile Conservation Newsletter.

The hat was placed on the adjustable block with a thin layer of quilt batting between the surface of the block and the inner surface of the hat. The sections of the block were then expanded outwards to support the hat.

The top of the hat had sustained the most serious damage and a backing of new cloth was considered necessary. The original cloth was of a plain woven wool stroud with very little nap. A piece of new wool stroud with a similar weave and colour was selected as a backing. The new wool, however, had a nap which, when placed next to the original cloth, was very obtrusive. To remove the nap the cloth was first washed in a 2% WA Paste solution, rinsed thoroughly, and dried. The cloth was then pinned out on a piece of "Tentest" board and shaved with a straight razor until the desired nap was achieved.

A pattern was made of the top of the hat indicating the direction of warp and weft. A piece of the shaved cloth was then cut to the shape of the pattern and inserted beneath the damaged cloth.

Damaged areas were couched down to the backing with red hair silk. Damaged areas on the side was couched sparingly directly onto the original lining of the hat. Due to

the heavy decoration of dentalium and abalone shell, backing of the stroud would have been extremely difficult and may have caused further damage to the hat due to excessive manipulation of the frayed material. The shell decoration in fact helped in some areas to secure the damaged cloth making couching of these areas unnecessary.

Three loose dentalium shells, and three loose abalone shell sections which had been stitched during some previous repair with an obtrusive white thread, were restitched with a beige polyester cotton thread resembling, in colour, the original sinew stitching. Prior to this the white thread was removed.

The hat was removed from the block and placed on a carved Ethafoam block padded with quilt batting. The base of the block was previously hollowed out so as to provide a grip for handling the hat.

For storage of the hat a plywood base sealed with two coats of shellac was constructed. The dowels, which projected from the base into holes in the Ethafoam block, prevented the hat from slipping off the base and provided easy removal (see Figure 1).

To cover the hat a box made from Coroplast as described by Carl Schlichting in the fall 1987 issue of Textile Conservation Newsletter. This was constructed to fit loosely over a step in the wooden base. The box was made with a Mylar window, held with hot melt glue rivets, to provide visual access.

Philip White
Canadian War Museum
Ottawa
(formerly Intern at C.C.I.)

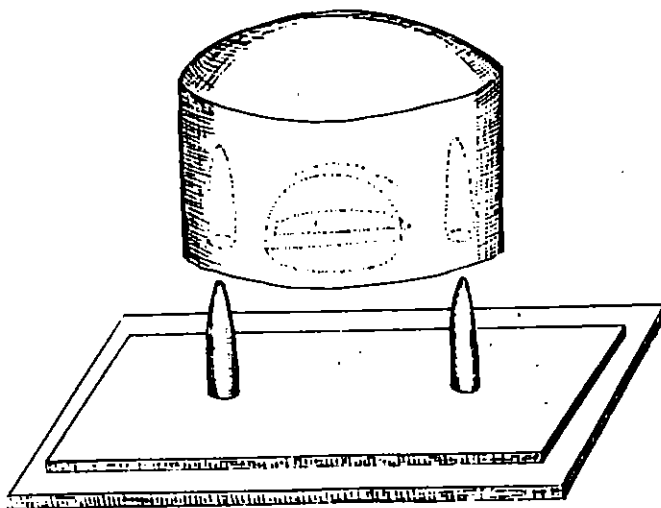


Figure 1

BEHIND THE SCENES OF THE GALLERIA DEL COSTUME

Since the Galleria del Costume's opening in 1983, both the general public and the specialized viewer have shown more interest in what goes on behind the scenes of a costume museum. The average visitor does not realize what happens when cataloging, conserving and preparing the costumes for display. He is also unaware of the criteria followed and the decisions made in order to have a final product or "look" that works.

With the presentation of the third exhibition and catalogue it was felt that some explanation might be appreciated. Of course this is not intended to be THE answer to costume preparation and display, but rather a presentation of some of the solutions found to effectively show historic dress. These solutions are a result of an extensive examination of techniques and methods adapted by other curators and conservators who have had to deal with similar problems.

The first major decision was the choice of mannequin with or without a head, arms and legs. It was decided early on that the Gallery would show full dress, as complete as possible, so that meant a figure with all features was needed. From a conservation point of view, the main characteristic required for a good historic dress mannequin is "dressability". This attribute implies that a costume can be put on and taken off with minimum stress. The mannequin should also allow a good fit to the costume without having to make drastic changes to the mannequin. The materials used to make the figures should be stable and not damaging to the costume during display. In the end, the decision to use the mannequins produced by the Wacoal Corporation, in collaboration with

the Kyoto Costume Institute and the Costume Institute of the Metropolitan Museum of Art, was made. These were designed for the specific purpose of supporting historic costumes as opposed to store display mannequins re-adapted for this use. At that time the firm made a nineteenth century female figure only. Shortly after, they introduced one for the eighteenth century woman. More recently they have developed one for the early nineteenth century and a "Belle Epoque" mannequin.

These mannequins are made of several anatomical parts which can be heightened or lengthened. The torso is divided at the waist so that the figure's proportions can be adjusted according to those of each individual costume. Once the correct proportions have been established, the empty area between the bust and hips is filled in with dacron fiber fill which is held in place with a tubular elastic mesh.

The torsos of these mannequins were the correct shape for the period dresses, but it was necessary to make understructures to simulate the various skirt shapes and to support the weight of the costumes. Thus understructures were developed for the different fashion forms of the eighteenth and nineteenth century dresses. Fashion plates and illustrations served as guides to achieve the proper line or silhouette. A careful study and examination of original undergarments, and most importantly, the cut and construction of the actual dress being displayed, was essential to understand its correct shape. There was less concern for reproducing real under garments, which were designed to bear comfort and movement. The understructures were, for the most part, made out of cotton calico and dacron fiber fill and they could be tied onto

the female mannequin to imitate bustles of different forms and sizes. Petticoats were designed with layers of ruffles to achieve the fullness desired for the individual shapes of the skirts. Crinolines were created much in the same way they would have originally been, but a plastic covered coiled wire was used to make the hoops. Unwashed calico was intentionally used as washed calico goes limp and does not maintain its crispness. Thus, each understructure was covered with acid-free tissue paper before the dress went over it.

The Wacoal Corporation does not make male mannequins and, therefore, in the end it was decided to develop a new male figure with the same characteristics as the female ones; i.e. "dressability", flexible and movable arms and legs, rotating head and adjustable proportions of torso and limbs. A face with stylized features was created to accompany the stylized face of the female mannequin and a torso shape was made to coincide with the cut of men's coats from the eighteenth to mid-nineteenth centuries.

Once the decision for full dress figures had been made, wigs, hats, shoes, gloves and other accessories were required. The most difficult task was the development of the mannequin wigs. Several attempts were made using various materials from paper to hemp to synthetic hair. Of course the cost came into question as already the mannequins were a sizable investment. Wigs that could be re-used and modified in the future were preferred since it was decided that every two years the exhibition of costumes would change.

A solution of gros-grain ribbon wigs was found. A base was made of tightly woven cotton which fits

precisely on the mannequin's skull. Wooden forms were custom carved to the exact skull shapes of both the male and female figures. The cotton base was stretched over the wooden form, after it was covered with this plastic, and then it was coated with a synthetic adhesive and left to dry. White gros-grain rayon ribbons of various widths were treated with the same adhesive and dried in taught strips or else wrapped around brass rods of different diameters in both an "S" and "Z" twist to make curls. Using these materials any style of wig could be made by working on the base and building up the desired shapes. Both the male and female wigs were done in this manner. Finishing touches, such as bows, feathers or flowers were added so that the wig would complement a costume.

Many documentary sources were consulted to aid in choosing a wig style that would be typical for a given period or style of dress. It was felt that many costumes could not be defined if they were not complete with a hat. For example, a hat would have been worn without exception with certain day dresses of the nineteenth century. Therefore, while original hats in the collection have been displayed separately, interpretations of original specimens have been produced to complement the costumes. These hats, too, could be re-utilized for future display by making slight alterations in the added decoration.

The same criteria was followed for the reproduction of the shoes. The Ferragamo shoe and fashion house, one of the founding members of the Association of the Friends of the Gallery del Costume, was called upon to help make period shoes to accompany the costumes. The mannequin's feet had to be

re-shaped to create a last onto which a pull-over could be applied. Stylized shapes were chosen that were typical of any given period.

Gloves of all types were found locally since Florence is renowned for glove production. The arms and hands of the Japanese mannequins come in both rigid and pliable materials. Both types are used and interchanged which permits a variety of poses when displaying numerous costumes. A figure can hold a fan, an umbrella, a bouquet or a book or be given a simple gesture which indicates the occasion for which the dress was to have been worn. The polyurethane used to make the pliable parts presents a technical and aesthetic problem: it yellows with age. Therefore, the hands are always gloved and the arms are covered with gauze bandaging and layers of opaque hose when visible.

As mentioned above, the Gallery's costume display is changed every other year. The rotation is done for several reasons. First, to protect the costumes from over exposure to light and stress. Second, over the years a maximum number of costumes can be studied, conserved and displayed, although, due to limited exhibition space, only 40 to 50 can be shown each time.

Display techniques were studied and developed to deal with the problems of exposure to light, dust and physical contact. Large free-standing glass cases were designed to completely protect the costumes. Each case was constructed with a built-in ventilator which gently circulates filtered air throughout it. This eliminates the settling of dust and the growth of mold. The windows of the room are all closed to prevent the entry of damaging light rays. General incandescent lighting is

throughout the museum. Incandescent spotlights, with individual dimmer switches, were hidden above the window cornices, so that the lighting can be adjusted to properly illuminate each costume without exceeding the recommended 50 lux light level.

The display cases are situated in existing historical interiors of the eighteenth century wing of the Palace. One might say that this is a museum within a museum. The furnishings, in most instances, originally belonged here and by chance reflect the taste of the period dresses on display. Despite this harmony, the costumes do not interact with their surroundings as in a 'tableau vivant'.

The early twentieth century kitchen, called "Cucinone", is located in the same wing which houses the Costume Gallery. This was converted into a textile and costume conservation laboratory, where the conservation and preparation of costumes now takes place.

A dossier is made for each dress which comes into the laboratory. This includes written and photographic information regarding its condition and treatment. The conservators work in collaboration with textile, lace, embroidery and costume experts to determine the dating and authenticity of costume construction and decoration.

Often costumes have been notably altered to non-existent fashion shapes. This was commonly due to historic dresses being used for fancy dress or Carnival costumes, though sometimes alterations were done by the original wearer due to size changes or fashion updating. When possible, after complete documentation is done, the dress can be taken back to its original shape. Often internal parts such

as linings or inner bodices are deteriorated beyond repair. These are sometimes removed, reproduced and replaced inside a costume. The originals are saved for study purposes. In other instances original linings have been saved, if of particular interest, by covering them with another fabric.

There are cases where an entire dress fabric needs to be completely supported to withstand its own weight during display, such as fine silk tulle dresses with heavy metallic embroidery. These have been treated in various ways to reinforce the entire surface of the dress fabric. The original construction of a costume is of utmost importance to the understanding of style and dressmaking history, therefore there is a minimal amount of dismantling and unstitching of costumes for conservation. Of course this is not always possible when the decision to unstitch original threads is often the only choice the conservator has when confronted with fabrics which are highly deteriorated. Regardless, each costume is examined individually and a treatment for that particular costume is prescribed.

Missing integral parts of costume, such as 'rusches', 'balyeuse' or 'volant', or missing decorations such as lace trimmings, tassels or fringes are replaced with replicas which imitate the originals but can be detected by the expert. For example, an early nineteenth century elaborately embroidered men's coat was missing a few embroidered buttons. These were reproduced by painting the design of the embroidery on a satin fabric which then covered a cardboard disc the same size as the original. This method successfully filled in the missing parts without falsifying the original.

The same is true for the replacement of essential finishing features which would have been necessary to complete the "look" of a costume. For example, the 'engagéantes', stomacher and collar missing from an eighteenth century female dress, or the ruffles, 'jabot' and 'cravates' of several male costumes were made of materials which copy the originals. An unobtrusive "neutral" material was chosen rather than using real or fake lace in order not to falsify the originality of the displayed costumes. Sometimes only the coat, with or without the matching vest of a male three piece costume has survived. Despite this a decision was made to exhibit these on a mannequin. Therefore reproductions of original eighteenth or early nineteenth century trousers were made in a suitable color and fabric.

Given the continual arrival of costumes to the museum, the work of selecting, documenting, conserving and preparing them for display is constant. The personnel of "Cucinone", together with researchers and the Gallery's administration collaborate in finding effective methods to present and make comprehensive historic dress to both the general public and the specialized viewer.

Mary Westerman-Bulgarella
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Florence, Italy

Footnotes

- 1 - Wacoal Corporation, 29 Nakajima-cho, Kisshoin, Minami-ku, Kyoto, Japan.
- 2 - This elastic mesh is called Surgifix and it is normally used for holding bandages in place.
- 3 - Janet Arnold, "A Labour'd Hoop to Ornament the Fair", Journal of the International Association of Costume, n. 2, 1985, pp. 6-16.

- 4 - The male mannequin was created by the Ditta Antonietta Barbaro, Viale Morgagni, 37D, Florence 50134, Italy in collaboration with the sculptor Giovanni Hubert.
- 5 - The adhesive used is a polyvinyl acetate called Morel Cement. This diluted with water to size the base and ribbons and is used un-diluted to adhere the ribbons to the base. Industria Chimica Morel + C. S.p.A., Via Gradisca, 18, 20151 Milan.
- 6 - Hats were made by Thessy Schoenholzer Nichols.
- 7 - The display cases were designed by Arch. Roberto Monsani in collaboration with the Ufficio Tecnico della Soprintendenza per i Beni Artistici e Storici di Firenze and the Centro di Studio sulle Cause di Deperimento e Metodi di Conservazione delle Opere d'Arte, C.N.R., Florence.

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Translation of the original text in Italian from the catalogue, Galleria del Costume 13, Centro di Florence, 1988.

**ANDERSON HOUSE MUSEUM
TEXTILE CONSERVATION LAB**

The Anderson House Museum in Washington, D.C. was built at the turn of this century by Ambassador Larz Anderson for his "Washington" residence. Since Ambassador Anderson's death in 1938, this magnificent building, located in the heart of "embassy row", has served as the National Headquarters for the Society of the Cincinnati (*the direct male descendants of the officers who served under George Washington in the American Revolutionary War). The house is used by the Society for meetings, parties and as a private hotel. Visiting dignitaries and top government officials may also use the building for entertaining.

The second floor of the house is still furnished largely as it was in the years the building was occupied by Mr. and Mrs. Larz Anderson (1905-1937). Our most important textiles are displayed in these rooms. The Dining Room and the Olmstead Gallery contain a set of eight wall hangings known as the "Diana Tapestries" (most of which depict the mythological goddess, Diana). This set of tapestries are purported to have been woven in Brussels near the close of the 16th c, in the ateliers of Jacques Geubels and Jean Raes. The mark of Brussels in Brabant is woven in the left-hand bottom galon of each tapestry and the monograms of the weavers in the right-hand upright galon. A catalog which describes these pieces states that they were "presented by the most Christian King Louis XIII of France to Cardinal Barberini Legate to France 1625."

This set of 17th c tapestries remained in the Barberini Collection until they were purchased by a Washington, D.C. wool merchant named Charles M. Ffoulke who, in turn, sold them to Larz Anderson.

Mr. Ffoulke sold another set of (4) Brussels tapestries to Mr. Anderson, known as the "Arbor Tapestries", which he acquired from the Gambarra Palace in Venice. These tapestries are hung in the French Drawing Room and were probably woven near the end of the 17th c.

Both sets of tapestries were taken down in the mid-1960's to be "cleaned and repaired" by a local Washington rug shop when a central air conditioning system was installed at Anderson House. Details of this restoration are not known.

Despite this "repair work", these tapestries still showed signs of active deterioration. The museum director spent much time researching the appropriate tapestry conservation techniques and exploring alternate ways in which the work could be done. It was discovered that there are very few conservators in the USA who do private contract work on tapestries. The museum director considered sending the textiles to Europe to be repaired, but he dismissed that idea when it was suggested that it would be less costly and more effective to set up a conservation laboratory on site. The laboratory would then oversee the general conservation needs of the museum, including environmental and pest control. Other objects in the collection which need repair are sent to private contractors.

The textile conservation lab at Anderson House Museum became a reality in November of 1976 when I was hired by the Society of Cincinnati to design and supervise the lab. Under the much appreciated and experienced guidance of Mr. Joseph Columbus (of the National Gallery of Art) and Louise & Ted Cooley (private conservators), a tapestry repair

plan was developed. Volunteers were recruited and trained for this labor-intensive project.

The two sets of 17th c Brussels tapestries required two distinct methods of conservation. I will explain the details of this work with its problems and solutions in future articles.

The Anderson House cordially invites you to contact us for an appointment to visit our textile conservation laboratory and museum whenever you may be in Washington, D.C..

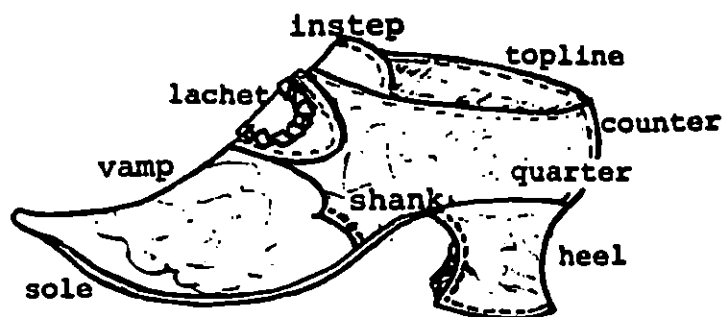
Katheleen Betts, Staff Conservator
Anderson House
Washington, D.C. U.S.A.

SUPPORT PADDING OF TEXTILE SHOES AT THE BATA SHOE MUSEUM

The following is a brief description of the current state of the evolving technique of supporting textile footwear. The two most sensitive parts of the shoe are the toe and the counter (back-part of the upper). The toe will collapse and the counter will sag if they are unsupported. If the sole is of leather its hygroscopic nature will cause it to curl up as the bound water evaporates into equilibrium with the atmosphere and it dries out.

To counteract the increase of the toe spring and subsequent gaping of the topline this causes, the manufacturer puts in a wooden filler or wooden stick to create tension between the counter and the toe. A shoe tree performs the same function. This pressure also prevents the stiffeners (leather, leatherboard or cardboard) in the counters of 19 or 20th century shoes from opening up. The manufacturer of a well-made 20th century shoe strives to achieve a narrow shape at the top of the counter and it is this esthetic that governs the appearance of the well-padded shoe as museum artifact at the Bata Shoe Museum.

To achieve this appearance we use rolls of unbuffered acid-free tissue and polyester batting to provide firm but gentle support.



Women's Shoe, early 18th century

Front Part

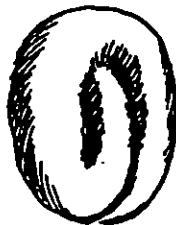
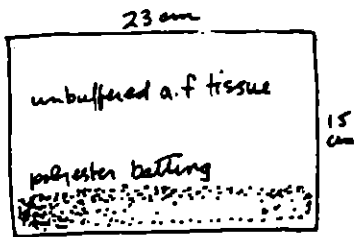
I have found that pre-cutting the tissue controls the size as well as the cost. Several sheets are halved at a time, halved again and again to the desired size. I generally use 3 sizes for a shoe.

The toe is padded with a small section of unbuffered acid-free tissue (approximately 12 x 15 cm). If the 'leather' toe support has separated from the textile (as it may in the 18th century shoes) it may be necessary to insert tissue between the layers to give the textile a smooth appearance.

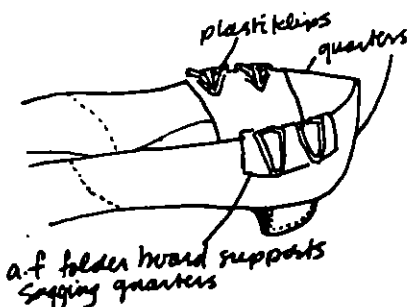
A roll comprised of unbuffered a.f. tissue and batting is formed into a ring and inserted in the front part of the shoe. The rings can be made to graduate in size to suit the shape of the shoe by varying the amount of batting used. The correct amount has enough spring to life the creases, but not strain the textile. Three to four rings generally fill the front part to the shank.

Back Part

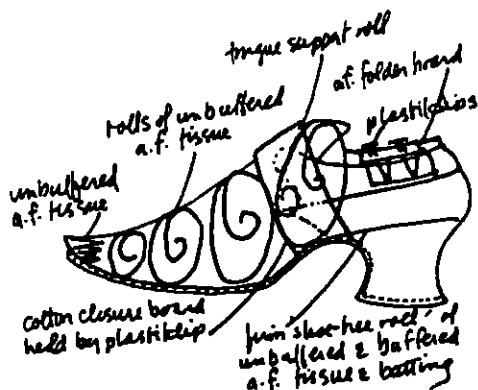
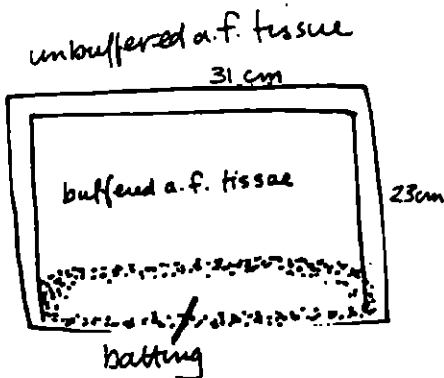
Sagging quarters are supported by a strip of a.f. folder stock (approximately 4 x 18 cm) which is conditioned to prevent creasing by scrapping it quickly between the thumb and the edge of a bone folder or ruler. The card is fitted in the back part of the shoe. One end if bent over the top line and secured in position with two plastic clips. Both quarters are pulled up firmly, supported by the card. The other end of the card is bent over and clipped to the top line.



stuffed ring



BACK PART



A long firmer roll acts like a shoe tree to keep the back part straight. It is made into a roller after sandwiching a rectangle of unbuffered a.f. tissue (51 x 23 cm approx.) with a slightly smaller rectangle of crisp buffered a.f. tissue and a corresponding length of batting. This roll is bent in half and fitted into the back part of the shoe and against the soft rings that fill up to the shank.

A final soft ring can be inserted in the instep area to support the tongue if necessary.

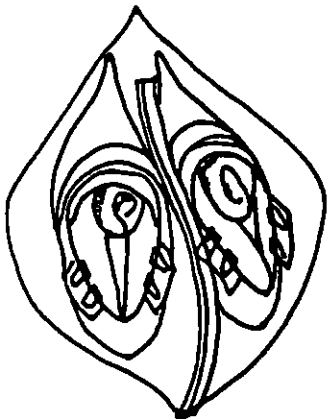
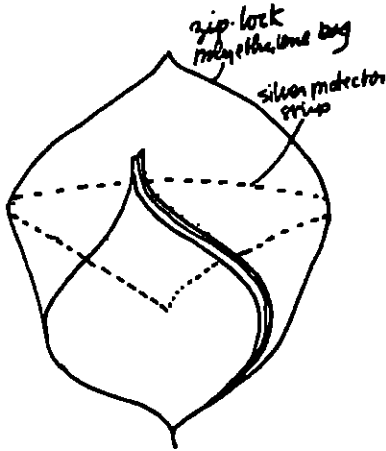
Shoe lachets if present are positioned closed and secured by a band of muslin, approximately 3 cm in width, overlapping at the side seam of the shoe and secured by a plastic clip.

Silver Thread

If the shoes are decorated with metallic silver thread, they can be protected from the tarnishing effects of atmospheric sulphur compounds by providing a barrier in the following manner. A polyethylene zip-lock bag, 30 x 39 cm, is adapted and fitted with a sulphur-absorbing strip by holding open on its side and pulling in the bottom corner to form a triangular flap on the bottom of the bag.

The silver protecting strip is slipped under the flap. The shoes' toes fit in the pointed end of the bag. When the bag is closed, the stiff zip-lock acts as a vertical spine, standing upright to prevent the plastic collapsing and touching the shoes. A diamond-shaped card can be cut to fit the bag to keep shoes from sitting on the plastic. It is recommended that the protector strips be changed every year, but this of course varies with the atmospheric conditions of the storage area which can be monitored with a control strip of silver.

SILVER THREAD



pair shoes w metallic silver thread
protected by barrier of .002 mil
polyethylene & silver protectn strip

Saundra Reiner-Moffatt
Bata Shoe Museum
59 Wynford Drive
Don Mills, Ontario
M3C 1K3
(Tel.: 416-446-2238)

Materials and Supplies

Garnetted polyester fiberfill -
Dacron 91
Union Felt Products
1 Wiltshire Ave.
Toronto, Ontario
(Tel.: 416-656-7491)

Unbuffered acid-free tissue
Buffered acid-free tissue
Acid-free folder stock or
barrier paper
Woolfits Art Supplies
390 Dupont Street
Toronto, Ontario
M5R 1V9
(Tel.: 416-922-093)

Unbleached muslin
- most fabric stores

Notes

Gilbert, Mark and Cook, Clifford
"The Use of Hydrogen Sulphide
Scavengers in the Protection of
Silver Objects in Museum
"Collection:"
ICOM Committee of Conservation
Metals Working Group
Newsletter #2 (1986)

Plastiklips (plastic paper clip)
Light Impressions
439 Monroe Ave.
Rochester, N.Y.
U.S.A.
14603-0940

Polyethylene zip-lock type bags
.002 mil
Futur Pak Systems
5000 Dufferin Street
Downsview, Ontario
M3H 5T5
(Tel.: 416-665-0200)
Silver protector strips
3 M. Co. P.O. Box 5757
London, Ontario

POULIN BALLROOM SCENE

In the Fall '86 issue of the TCN, we outlined the treatment of a 'ballroom scene' diorama, which had been conserved in our division. Since then, I have been asked for a more detailed description of this treatment. Readers are referred to that issue for background information, and might like to know that a Poster Session on the subject was presented by Paul Lauzon at the IIC-CG conference in Toronto, May 27-29, 1988.

As was mentioned in the Fall '86 issue, treatment (performed by Han Jongejan and myself) of the costumes on the carved figures was quite basic, although very fiddly. They were treated as much as possible in situ, so that the decorative elements, which had been stitched or glued on, wouldn't be disturbed. Only occasionally was it impossible to insert backing fabrics behind areas of loss without disassembling the tiny garments. So, after cleaning the entire figure by gentle vacuum suction, and lightly surface-cleaning the wooden components (heads and hands) with distilled water, the main work consisted of supporting weak areas and holes with suitable fabrics, and couching them down in the traditional manner.

(As mentioned in the previous article, Mr. Poulin's daughter, who worked in a textile factory, had made the little costumes from all sorts of scraps of fabrics. These were matched as closely as possible with compatible materials.) Apart from this major portion of the treatment, some small commercial flowers (bought as a nosegay) were dyed and added to flowerpots throughout the diorama where originals were missing, to restore the intended 'ambiance'. Jan Mulhall, who was working with us at

that time, was responsible for this contribution to the treatment.

I must admit that the project grew on me more and more as I began to appreciate the ingenuity of the artist in creating each of the different little characters.

With regard to the structural and mechanical components of the diorama, Paul Lauzon and Vaclav Valenta performed a small miracle in putting the contraption into a functioning state again. As per Paul's treatment report, after documentation, photography, and removal of the figures for conservation by Textiles, the diorama itself was vacuum cleaned, and excess grease and dust was wiped away where required. The dance floor of the ballroom consisted of a circular disc. The dancing couples were mounted on separate smaller discs, secured through the dance floor. A friction mechanism below this stage provided the rotary movement to the discs, whereby the dancing couples revolved. This friction system wasn't working anymore, so it was removed for repair. New mechanical parts were devised not to imitate the maker's style, but simply to provide the required movement. A variable speed drill was used to provide the main drive. The drill has a gradual start-up acceleration preventing damage to the piece by instant and fast start-up speed. Two right-angle (drill drives were used to provide motion from horizontal to vertical shafts. A secondary motor (GM windshield wiper motor) was used to provide power to the uppermost balcony on the proper right side.

The diorama was placed on an exhibition stand so that the ceiling of the ballroom could be installed, and to provide it with a

stable support. The angle of the curves required for the ceiling was taken from the actual curves of the trailer's bulkhead.

The 115V lighting and electrical system had been severely damaged, beyond repair. It had to be replaced. A 12V system was installed. This ensured a lower head production from the lamps, as well as being much safer in case of accident. The flashing lights for the bathrooms were made to copy the effects of the original flashing lights.

CHILKAT TUNIC

The conservation treatment of a Chilkat tunic, belonging to the Canadian Ethnology Service division of the Canadian Museum of Civilization was completed. The tunic will be included in an exhibit (travelling throughout the U.S., then back through Canada, before going to the U.S.S.R. entitled "Crossroads of Continents"), which traces the cultural links around the north Pacific Rim, with particular attention to the Soviet and American ethnologists who did some early collecting in each other's countries.

The tunic was originally a blanket dating from the first third of the 19th century. According to documentation on file, it was made into a dance tunic probably in the third quarter of the 19th century. The V-shaped lower edge and the warp fringe were cut off, and the piece was folded in half. The two sides were stitched together, leaving space for the armholes. The armholes, side seams, and hem were bound with red stroud. A slit was cut in the fold to form the neck opening. This was bound with a ribbon with floral motifs formed by floats of the beige cotton warp against the ground of purple silk wefts worked in satin weave. The

warps and wefts of the tunic were made of two S-twist strands of mountain goat wool, plied together to form a Z-twist yarn. Warps were left in their natural off-white state. Wefts were left natural white, or dyed black (now brown), yellow, or green. Numerous twining techniques were used to create the pattern designs. Basically, the design consists of repeating totemic motifs on a ground patterned with brown and white triangles and zig-zags. The border consists of three wide yellow, brown and white bands.

The tunic was heavily soiled, and in extremely fragile condition, with major areas of loss, and numerous areas of weakness. Dyes tested fugitive to water, but fast to perchloroethylene.

The decision having been taken that this textile should be exhibited, agreement was reached during further consultation with the curator involved, concerning the degree of conservation intervention. Basically, the tunic was to be dry-cleaned, and weak sections and areas of loss would be reinforced. The visual image of the design motifs was to be restored only to the point where the losses would not be obtrusive, and in such a way that treated areas could be easily distinguished from the original, by the trained eye. An interior mount was also to be made for the tunic. The piece would thus be in a sufficiently clean and sound condition to be exhibited. After gentle vacuum-cleaning, and securing weak areas in cheesecloth, the tunic was dry-cleaned at a local firm, under my supervision. It was given minimal manual processing, owing to its fragile condition. Although some dirt discolouration remains in the tunic, the physical condition and general appearance of the tunic were much improved by dry-cleaning.

Following this, weak areas in the stroud were backed with small pieces of wool fabric ("Passepoil" from Hefti of Switzerland), secured in place by appropriate stitching with fine silk thread. Weak sections and areas of loss in the main body of the tunic were reinforced with a variety of tapestry wools. Rather than reproducing the original twining technique, new wefts were worked in by weaving over and under the warps of adjacent areas of weft loss. In some places it was also necessary to lay in new warps. Both the reinforcing technique, and the type of yarn selected, ensure that conserved areas in the main body of the tunic may be identified.

(Note: 'Jumbles' of dark brown yarn at the mid-point of the edges of the design motifs were remnants of weft tassels, which hung down when the tunic was in its original blanket form. No attempt was made to alter these, at the risk of losing this documentary information.)

The ribbon binding the neck opening was also in weak condition. Silk crêpe, laid overtop, obscured the ribbon to an unacceptable extent, so it was agreed that the inside edge would have to be opened up. A strip of silk fabric, dyed to a suitable shade, was laid underneath, and secured to the selvedge of the ribbon, along the reverse side of the ribbon's inner unstitched selvedge. The ribbon was then refolded over the neck edge and restitched.

The tunic was not provided with a complete lining, as this has been found in some instances to be an obstacle to researchers, even when 'windows' are constructed (see Colleen Wilson's note, in the March 1985 issue of TCN, page 3).

In order to provide the required support, and to help eliminate flexing of the tunic when it is handled, an interior mount was made. Ethafoam was carved to shape covered with polyester fibrefil, and silk fabric. The tunic was wider at the shoulders, so separate shoulder supports were made, with Velcro attachments. The neck opening, shoulder supports, and bottom portion of the mount were also covered with linen, for visual effect.

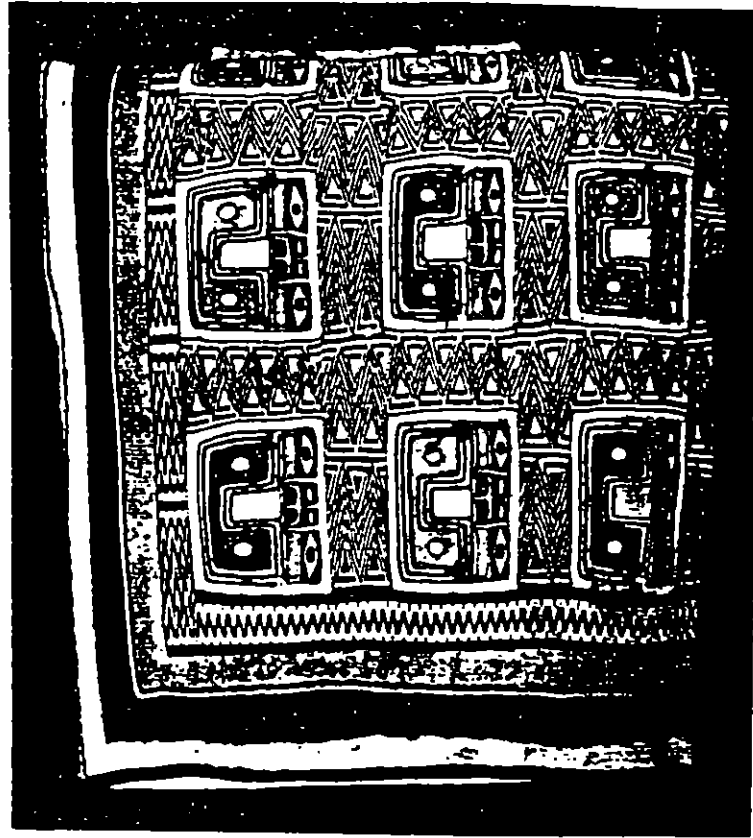
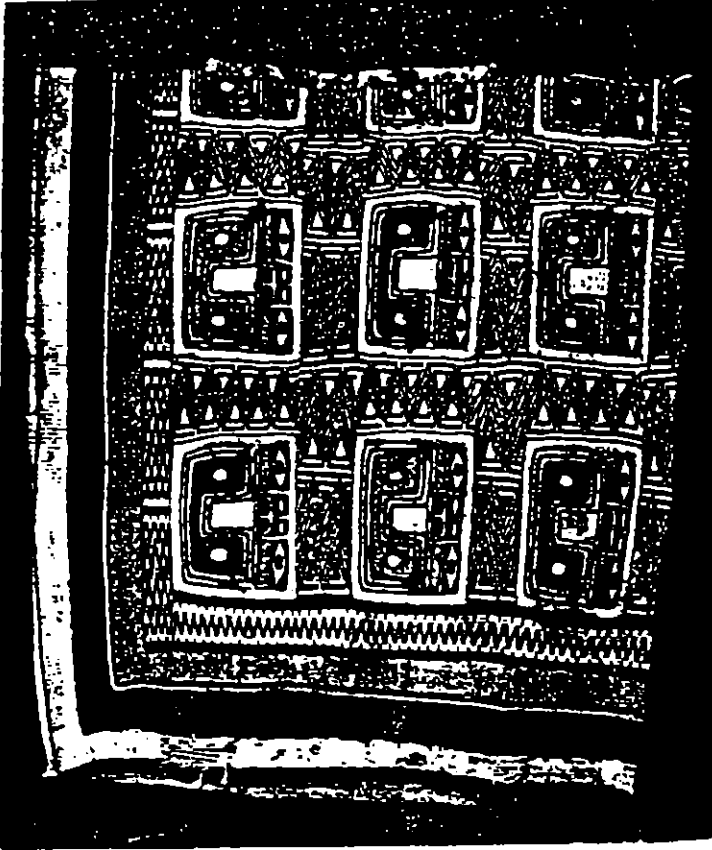
Note: A minor amount of arsenic (that which gives spectrum comparable to 0.25% to 0.9% arsenic standards) was found in the tunic, by early analysis by the Analytical Research Services division of the Canadian Conservation Institute. In light of this, frequent handwashing during treatment was required (protective gloves were impossible to wear owing to static build-up causing yarns to stick to the fingers). Blood tests showed that I suffered no ill effects in performing this treatment. Clearly evident notes of caution, and disposable gloves, were included with the tunic when it was packed.

In conclusion, I would like to advise TCN readers that I intend to expand fully on this treatment in an appropriate manner, hopefully by means of presentation at a conference, in the not too distant future. The tunic will be on show at the new Canadian Museum of Civilization, from September 22, 1991, to January 26, 1992.

Photograph of Chilkat Tunic
before treatment:

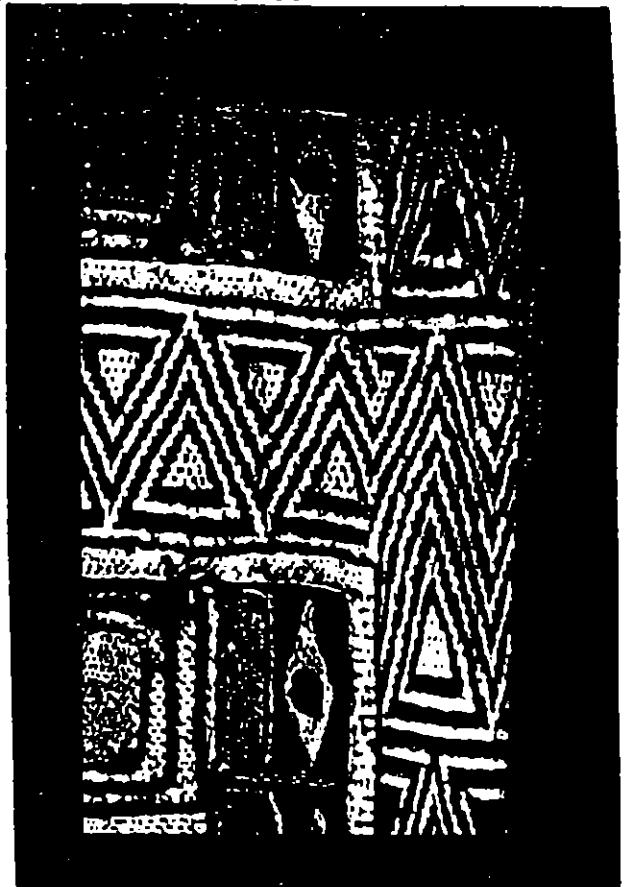
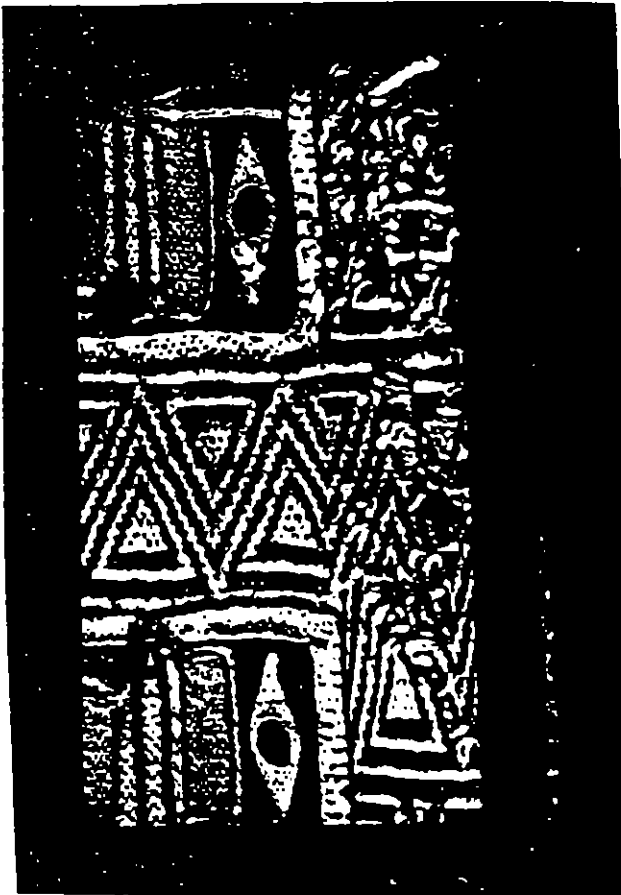
- 21 -

after treatment:



Detail of shoulder (upper right above)
before treatment:

after treatment:



OTHER PROJECTS AT THE CANADIAN
MUSEUM OF CIVILIZATION, OTTAWA

Care of Collections

A lot of time is currently being spent on 'care of collections' treatments. These are for pieces urgently requiring attention, which are not slated for particular exhibits, and include Haitian, Egyptian and Chinese costumes from the Canadian Centre for Folk Culture Studies (division of C.M.C.).

Upcoming Treatments

We are preparing to start work on a group of textiles intended for display in the "Chinese Canadians" exhibition. This will be held in the Ethnic Hall at Parc Laurier, when it opens in July '89, and will focus on the contribution of the Chinese community in Canada. More details about this in the next issue of T.C.N..

Dry-Cleaning

Dry-cleaning techniques for the treatment of costumes and textiles have been the subject of much recent investigation in our lab. This has been with a view to the needs of our Folk Culture collection, in particular, which includes many modern, sturdy ethnic costumes. Heavy soiling with makeup, food, beverages, etc., is common to theatrical and dance costumes, and in many instances can be successfully prespotted for removal during dry-cleaning. I am of the opinion that these textiles call for a different approach than that which would be taken in the treatment of older, more fragile period costumes, for example. In view of the important role dry-cleaning methods are playing in the conservation of textiles in the C.M.C.'s collection, I have begun

some private training with a local dry-cleaning firm. With more hands-on practice using the equipment and learning the procedures (further to the four-day training course I participated in at the New York School of Dry-Cleaning, in the summer of '86), I will be better able to evaluate personally the potential success, and precautions required, in the use of dry-cleaning techniques, and especially spotting procedures for stain removal. I'm glad to be gaining more expertise in this area so that I can decide also if we should order a spotting board for the C.M.C. Textiles Laboratory in the new building. (In this regard, I attended the "Clean Canada Update '88" trade show of dry-cleaning equipment, held in Montreal, on April 22. I brought back brochures on various pieces of equipment for each of the textile conservators in Ottawa.) Unfortunately, my training, although excellent, is somewhat sporadic at the moment, owing to difficulties with schedules. I'm hoping that the hectic business pace of the firm I am working with won't impede my progress. Frankly, the firm has been very generous to offer me this training free of charge. The individuals with whom I have been dealing have extensive experiences working with historic textiles. (One gentleman worked in a dry-cleaning firm in London that dealt with textiles belonging to the Victoria and Albert Museum, before emigrating to Canada 20 years ago. Another man has specialized in the treatment of theatrical costumes.) They are actually eager to have me work with them, as it gives them a change of pace to discuss procedures with a textile conservator. So I am optimistic that my early Saturday morning sessions (7:30 a.m. start) will proceed, and be well worth the investment.

One last point of interest - this dry-cleaning firm is planning to give a short course in prespotting. They have invited textile conservators in the Ottawa area to participate. I have already contacted my colleagues here, and we are all looking forward to hearing when the date for the course is set.

Mannequins

We have been asked to prepare two male mannequins for the Art Gallery of Ontario, for the display of two costumes in their exhibit "Picasso in Toronto" collections which is to run from July 30 to October 2, 1988. We welcome this opportunity to work further on the ethafoam disc technique. C.M.C.'s needs for mannequins for exhibits for the new museum have not yet been established, so until now, work on this project has been on hold since last fall.

Julie Hughes
Ruth Norton
Han Jongejan
Textile Laboratory
Conservation Services Division
Canadian Museum of Civilization

A SUPPORT FOR LARGE FLAT ARTIFACTS DURING TREATMENT

Many of us have experienced the tedium of endless hours bending over or lying over a large flat artifact during a lengthy treatment. To further complicate matters these objects often come into a lab in such a state that they are required to be laid out flat due to tears through the main body of the piece. This makes the treatment of areas near the centre an uncomfortable and lengthy process.

When the Ethnology Laboratory of the Canadian Conservation Institute received a woven cedarbark mat for treatment in November of 1987 these problems were considered and a support device was designed to minimize them. The mat which measured approximately 1.4m x 2.1m had been divided into four separate sections due to repeated folding with some loss of cedarbark at the fold lines.

Design and Construction

The support designed and built consisted of a large wooden frame, 6' x 8½' which was strung tightly at 3" intervals with 40 lb test monofilament nylon line. This provided a sturdy support for the mat and gave the added benefit of access from both sides. The frame was supported at either end by telescopic legs which adjusted from 3' to 4½' in height. A dowel 1½" thick which projected from either end of the frame passed through the upper portion of the leg to allow the frame to pivot to any desired angle for access to the centre of the mat during treatment. To lock and support the frame at the desired angle two semi-circular supports, drilled every 9" with 1" holes were placed at either end underneath the frame. The holes coincided with a vertically sliding arm on the inside of either leg, through which the supports passed. (See Figures 1 & 2) with the addition of extendable wooden arms on all four corners of the frame the device can be used to support large pallettes.

The device has extensive applications in the fields of ethnological, fine arts and textile conservation.

MANNEQUINS AND HEADFORMS:

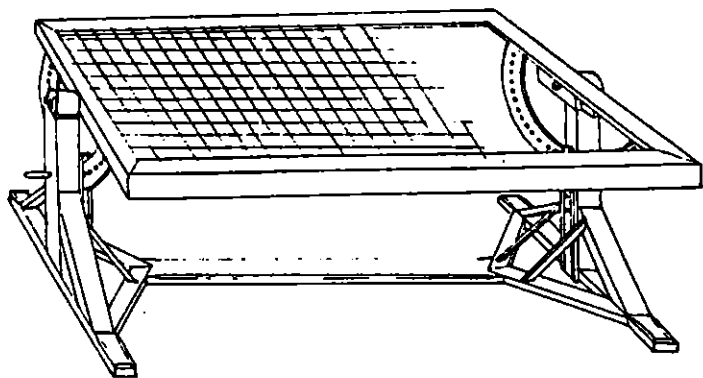
During the past year, the Textile Conservation Laboratory at the Canadian Parks Service, Historic Resource Conservation Branch, was involved in the construction of mannequins to display military jackets and headforms for military headdress. After researching different methods, it was decided to make the torso of the mannequins and the headforms using ethafoam discs. This method was described by Colleen Wilson in her article entitled "Body Building" in the September 1982 issue of TCN. Reference to this article may be required as the construction of the torso will not be repeated in this report. In this article, a description of the construction of the arms, the headform, and the base for both headform and torso will be discussed.

Arms:

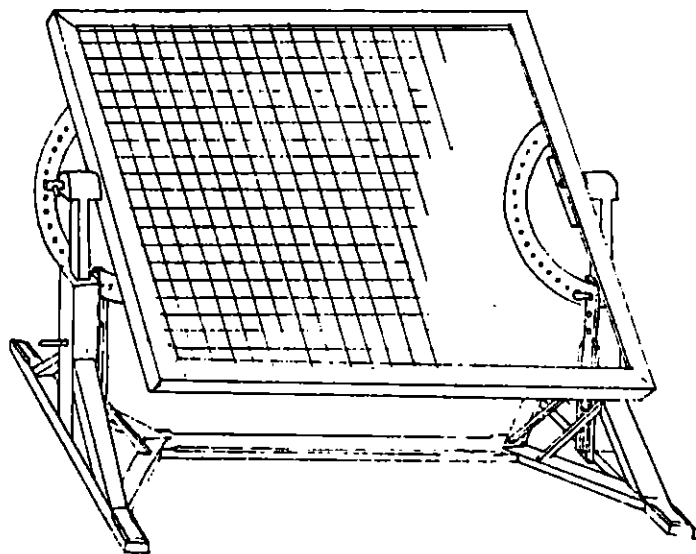
A certain fullness at the sleeves is aesthetically more pleasing when a costume is displayed on a mannequin. We, thus, decided to pad the sleeves with fiberfill batting to simulate the arms.

Certain measurements were taken: the length of the sleeve, the circumference of the sleeve at the widest point, the circumference of the cuff and the contour of the shoulder. From those measurements, the width of the arm was calculated and the number of layers of batting was chosen.

Two strips of batting, approximately eight inches wide, were cut. The fiberfill batting was one-half inch thick. Each strip was separated into two layers in order to obtain four thinner strips.



Figures 1 & 2



The device, although rather large, has the potential for saving space since it eliminates the need for both a large flat table and a large easel. There is no need to transfer the artifact between two supports, and also since it is accessible from both sides, due to the nylon line, no need to turn the artifact over during treatment. For storage, the support can be disassembled and stored flat against a wall, thereby further saving space. The time taken to construct the device, approximately four days, seems insignificant when considering the time and trouble it can save during a lengthy treatment.

Phil White
Canadian War Museum, Ottawa

The narrow end of the strip was placed at the tip of the shoulder, slightly towards the back and was shaped to the contour of the shoulder.

The batting was pinned in place and was loosely basted to the form.

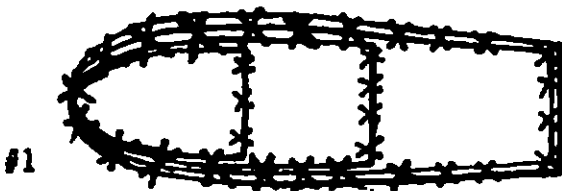
The width of the arm was gradually narrowed down to five inches at the cuff.

The jacket was fitted on the torso and the shoulder of the arm was further adjusted to the shoulder of the jacket. The length of the arm was altered accordingly.

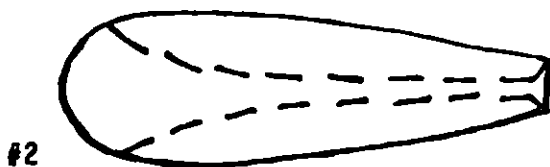
The other strips of batting were subsequently placed over one another, shaped at the shoulder and basted.

The width of the batting was gradually shortened at the elbow and at the widest circumference of the sleeve to achieve the desired fullness. (See drawing #1)

A strong cotton thread and large cross stitches were used to sew the arm to the shoulder, as well as to secure the subsequent layers in place. (See drawing #1)



The fiberfill arm in the sleeve of the jacket is portrayed in drawing #2.



Headforms:

Similar to the mannequins, the headforms were made with ethafoam discs. Here is a brief description.

Inside measurements, such as the circumference and the height of the headdress, were taken. For the circumference, one inch was subtracted to allow for ease and addition of the fiberfill padding.

Measurements were taken at intervals corresponding to the thickness of the ethafoam.

The shape of the headdress was examined. Using a tape measure, the shape was drawn on paper and transferred onto the ethafoam. Each disc was numbered.

The ethafoam disc was cut and glued together with 3M adhesive No. EC 1886.

The rough edges were removed with a knife having a long serrated blade and the form was smoothed down with a small hand grinder.

A drycleaner plastic bag was then placed over the form to allow easy removal of the headforms during fittings.

The shape of the ethafoam was corrected with fiberfill batting. The fiberfill was secured to the form with heavy cotton thread and a large curved needle.

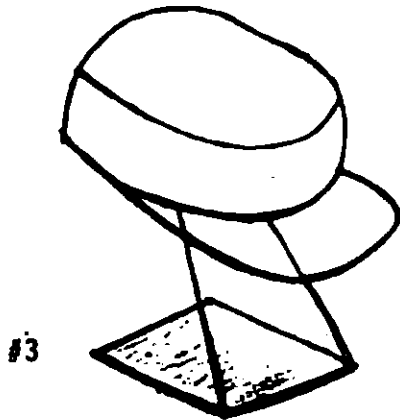
The form was covered with a prewash knit cotton fabric. The excess fabric was cut at the bottom leaving about one inch. A running stitch was sewn around the bottom of the form within the extra one inch. The thread was pulled to gather the fabric.

Another piece of the same fabric was placed at the bottom of the form and sewed to the covering fabric using slip stitches.

Headform Base Construction:

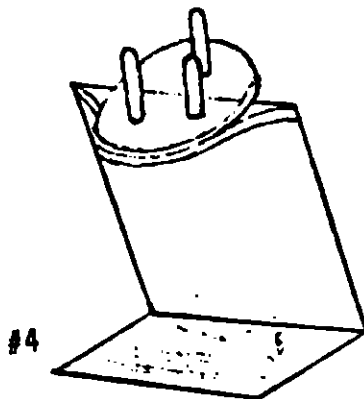
The shape of the bottom of the headform was traced on a paper. A $\frac{1}{4}$ inch was removed along the inside circumference and the paper pattern was cut.

The pattern was placed on a $\frac{1}{4}$ inch plexiglas. The shape was traced and the plexiglas was cut. The edges of the plexiglas were polished until smooth. As for the forage cap, the piece of plexiglas was extended beyond the headform so as to fully support the visor. (See drawing #3)



From $\frac{1}{4}$ inch in diameter plexiglas rod, three pieces, approximately $1\frac{1}{2}$ inches long, were cut.

These pegs were placed, at approximately $2\frac{1}{4}$ inches apart on the piece of plexiglas and their position was indicated. At each point, a hole, slightly larger than the diameter of the peg, was drilled. A small quantity of adhesive, Weld-on 16, was placed

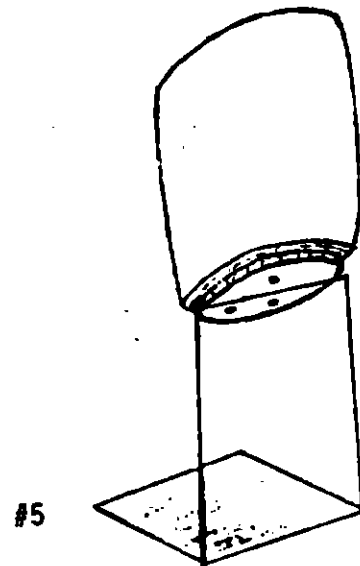


along the edge of the holes and a peg was placed at each hole, flush to the underside of the sheet of plexiglas.

A rectangular piece of $\frac{1}{4}$ inch plexiglas was cut slightly smaller than the width of the headdress. The sheet of plexiglas was bent and shaped to obtain a three-dimensional base and adhered in place with Weld-on 16. (See drawing #4)

The position of the three pegs was marked onto the bottom of the headform. A backstitch was sewn around the indicated areas. The knit fabric was cut and three holes, slightly longer than the length of the pegs were drilled in the headform.

The headform was placed on the plexiglas base. (See drawing #5)



Mannequin Base Construction:

Base 1

The shape of the bottom of the torsos was traced on a paper. A $\frac{1}{2}$ inch was removed along the inside circumference and the paper was cut.

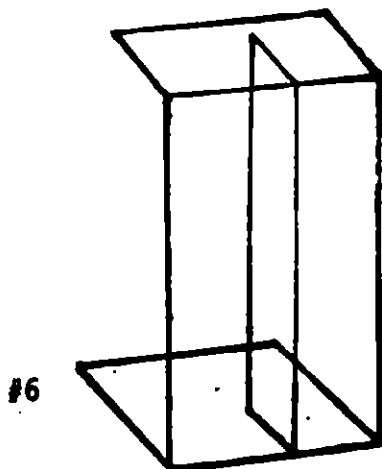
The pattern was placed on a $\frac{1}{2}$ inch plexiglas. The shape was traced and cut. The edges of the plexiglas were polished.

The circular plexiglas was then adhered to the bottom of the torso, using 3M adhesive No. EC 1886.

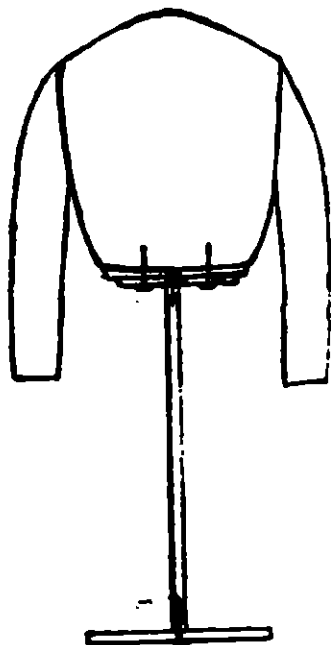
A rectangular piece of $\frac{1}{2}$ inch plexiglas was cut smaller than the width of the circular base.

The mannequin was to be displayed in a showcase of restricting height. The height of the base was adjusted consequently.

The rectangular piece of plexiglas was bent and shaped to obtain the desired shape. (See drawing #6)



The plexiglas base was adhered to the bottom of the torso with Weld-on 16. (See drawing #7)



Base 2:

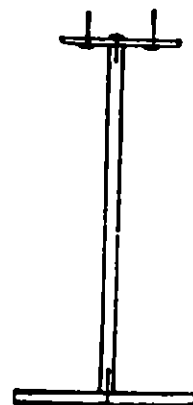
As in base 1, a circular piece of plexiglas was cut $\frac{1}{2}$ inch smaller than the circumference of the base of the torso.

A plexiglas rod, two inches in diameter, was cut to the desired length. The height of the mannequin corresponded to the total height of the person wearing the jacket. The height of the base was prepared accordingly.

A circular piece of $\frac{1}{2}$ inch thick plexiglas was cut approximately 12 inches in diameter. This larger piece will be the foot of the base.

The two circular pieces were attached at each end of the rod with a screw. (See drawing #8)

The torso was placed on the base and secured in place with two screws. (See drawing #9)



The jackets and headdresses are now on display at Fort Wellington, National Historic Parks, Prescott, Ontario, and at the National Archives in Ottawa.

I would like to acknowledge the effort and help of the Furniture, Furnishings and Reproduction Section, Historic Resource Conservation Branch, Canadian Parks Service, for the construction of the plexiglas base for the headforms and base 1 required for the torsos.

Further acknowledgements go to the Exhibition Services at the National Archives for the construction of the plexiglas base 2 for the torsos.

Lucie Thivierge
Textile Conservator
Historic Resource Conservation
Branch
Canadian Parks Service
Ottawa

Sources of Supplies:

1. 3M adhesive No. EC 1886:
Adhesive Coatings and Sealants
3M Canada Inc.
Post Office Box 5757
London, Ontario
N6A 4T1

Please refer to the Commercial Product Analytical Reports ARS 1805.3, published by the Analytical Research Services, Canadian Conservation Institute, 1981.

2. Drycleaner plastic bag:
Groulx Robertson Ltd.
1177 Newmarket
Ottawa, Ontario
K1B 3Z1
Tel. (613) 749-5939
3. Weld-on 16 and Plexiglas:
Cadillac Plastics
155 Colonnade Road, Unit 6
Nepean, Ontario
K2E 7K1
Tel. (613) 226-7487

ALTERATION OF A DRESSMAKER'S MANNEQUIN

The alteration of a dressmaker's mannequin was needed in order that the garments designed for wear by the interpreters in our Historic Parks and Sites could be accurately constructed.

The designers of the Costumes and Textiles Resource Group, Interpretation Branch, National Historic Parks and Sites Directorate, Canadian Parks Service, design and construct patterns and prototypes which are used in the reproduction costume programs in the Historic Parks and Sites.

The patterns are designed and made to specific standard sizes. All development and construction of prototypes are done in size 12 Miss. A dressmaker's mannequin was purchased (from Wolf in New York) which corresponds to size 12 Miss of CPS's standard body measurements. The shape of the mannequin is that of a modern figure, since that is the shape the final garments must fit.

Silhouette is one of the most important considerations when the patterns and prototypes are designed. Since women in the 19C wore corsets which changed the silhouette of the body and the interpreters in most of CPS' Sites do not wear corsets, the cut of the garment must give the proper silhouette of the period.

After saying all that, the problem with the mannequin was that it was made of an inflexible material and the prototypes which are designed to mould the body into the proper shape would not fit properly on the mannequin and it was very difficult-near impossible-to design a pattern, that would reshape the body, on a mannequin that was inflexible.

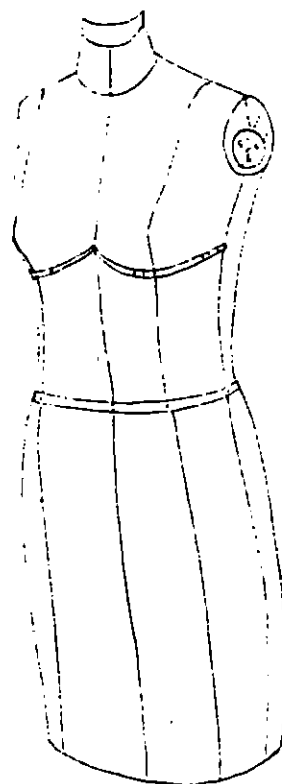
The critical area of the mannequin was the bust area. With the assistance of Historic Resource Conservation and a very observant shopper in a bicycle shop, a solution was found.

What was needed was a substance that had the same malleable properties as human flesh. The observant shopper saw a bicycle seat which was padded with a substance that moulded to the rider and softened the ride at the same time. After some investigation, it was revealed that the substance was called Spenco and it was used also for protecting wounds and surface irritations from pressure.

Spenco is hypoallergenic, hospital clean (not sterilized), gas sterilizable, may be treated with antiseptics, and can be washed for reuse. It, however, should not be autoclaved.

Procedure

1. The mannequin was carefully measured, all tapes and nails identifying measuring points were marked on a drawing.
2. A mould was made of the upper front torso. Polyethylene film was used as a separator and a two part rigid 2 lb density polyurethane foam mixed and it foamed into place. A second layer of polyethylene was used on top to contain the expanding polyurethane foam.
3. The mannequin was disassembled and the outer layers of linen, cotton batting and cotton knit were retained.
4. The mannequin was constructed of a moulded cardboard substance which was approximately 5mm thick. The bust shape was cut away and a piece of bass wood was screwed in place and carved to simulate the skeletal shape of a ribcage. The wooden insert had to be thin enough to clear the mechanism inside for the collapsible shoulders.
5. The mould, described in Step 2, was lined with a thin layer (about 5mm thick) of silicone rubber called RTV Wacker.
6. Approximately 1½ pads of Spenco (10cm x 10cm x 1.5cm) were put in each indentation in the mould, it was heated to its melting point with a heat gun, and it conformed to the shape of the mould.
7. The Spenco adhered lightly to the silicone lining. The new form was released from the polyurethane form, positioned onto the bass wood insertion on the front of the mannequin, and it was stapled in place around the edges of the silicone layer.
8. The covering layers were replaced making sure that the original measurements were restored.



Results

The alteration does what was expected and the procedure was successful. However, after the mannequin had been used for four months, a stain on the outer layer of fabric was noticed around a nail. The stain seemed to have a light oily feel. The separation of the oily silicone substance probably occurred during the heating process in Step 6. This would seem logical because the instructions on the packaging warns not to autoclave the product.

Ruth K. Mills, Senior Period
Costume Designer
National Historic Parks and Sites
Directorate
Canadian Parks Service
Ottawa

Source for Spenco Dermal Pad:

Spenco Medical Corporation
Box 8113
Waco, Texas 76710

Spenco (U.K.) Ltd.
Tanyard Lane
Steyning, West Sussex
England BN4 3RJ

CONSERVATION INFORMATION NETWORK

By now most of you have probably heard about the Conservation Information Network (CIN). It is a collaborative venture between the Getty Conservation Institute (GCI), the Canadian Conservation Institute (CCI), ICCROM, ICOMOS, the Conservation Analytical Laboratory of the Smithsonian Institute and the Canadian Heritage Information Network (CHIN) which provides the technical support. These institutions contribute a wide variety of information relevant to the conservation field.

Here is a short summary of the three main databases accessible through CIN. For more detailed information I recommend that you read John Perkins' paper on "The Conservation Information Network" ICOM Committee for Conservation Sydney Australia 1987, Vol. 1 page 255-260 or contact the Network, c/o Getty Conservation Institute, 4503 Glencoe Avenue, Marina del Rey, California 90292-6537.

1. The Conservation Bibliographic Database (BCIN) covers all conservation literature that relates to the principal of conservation and restoration of movable and immovable cultural property. Citations include published and unpublished monographs, serials, conference proceedings, reports, theses, audio-visual material, software, and machine-readable files. This database contains over 100,000 citations.
2. The Conservation Materials Database (MCIN)
The first form of this database was developed at CCI and later merged into the Materials Database. It contains information on materials used in conservation. Each material has two types of records, one

technical, the others observed. The technical record holds scientific information such as manufactures datasheets and research results. The observed records contain the formulation or mixing recipes of a product and observations made by a conservator when using the material for a specific conservation application.

At this time MCIN holds approximately 1,500 records in four major categories: adhesives, consolidants, coatings and pesticides. Other categories will be added such as solvents, backing boards, pigments, storage and display materials.

3. The Conservation Product/Supplier Database (ACIN)

This database holds information on suppliers and manufacturer of products used in conservation treatments. It contains all the information necessary to be able to order products that could be of interest to a conservator.

To make the last two databases MCIN and ACIN truly useful to us as conservators it is essential that we all contribute information. Only through our contributions will the Network become beneficial to all of us and the information will remain current. Contributions can be made by filling out the attached Entry Forms. For your convenience we have added Example Forms on how to enter your information. Even if you do not have access to the Conservation Information Network, please contribute. Many of us who have access are willing to share with you the information we can retrieve.

Ela Keyserlingk
Textiles Division
Canadian Conservation Institute
Ottawa

SAVE THE SILKS! PROTECTION FOR WEIGHTED SILKS

STELLA BLUM RESEARCH GRANT

Sponsored by the Costume Society of America

Report Presented at the Annual Meeting of the Costume Society

Cincinnati, Ohio

May 23, 1988

by

Merrill Horswill

PhD Candidate

University of Wisconsin, Madison

The purpose of this study is twofold: to determine what weighing agents were actually used and to test the effectiveness of the patents claiming antioxidation protection for weighted silk with regard to photo-oxidation (deterioration due to light). This study looks at the effectiveness of the antioxidants on both new and historic silks under natural and artificially accelerated aging conditions. The following research questions are considered:

-What weighing agents are found on historic silks?

-Do the protective agents work under differing lighting conditions?

-Are the protective patents effective for historic textiles?

-Could the protective agents be used by conservation professionals to retard the deterioration of weighted silk costumes?

Methodology

The study has several phases, based on the different types of data required by the different research questions.

Phase 1

Historical data on the exact nature of the patent formulae was obtained from Patent Office files in Washington, D.C. However, the agents utilized in early 1900 were found to be unacceptable today, as they are now known cancer causing

agents. Therefore, I investigated antioxidants now in use in the synthetic polymer industry and contacted the manufacturer. The Witco Chemical Company of New York has donated two different antioxidant compounds for this study.

Phase II

Understanding what is actually on the historic garments is preliminary to treating the deterioration. Therefore I was anxious to obtain samples of actual garments which could be analyzed for weighting agents. Many samples were donated by members of the Costume Society and various institutions. The majority of the costumes were deaccessioned from the Neville Public Museum in Green Bay, Wisconsin and donated to the University for this research. In total, 40 historic garments, dating from 1850-1930 were analyzed using two techniques, Scanning Electron Microscope with Energy Dispersive X-Ray Spectrometer (SEM/EDS) and Neutron Activated Analysis (NAA). Both tests have previously been utilized for historic textiles. Scanning electron microscope analysis has recently been used on weighted silk at the Smithsonian Analytical Laboratory(1) and Neutron Activated Analysis was reported in a study undertaken at Kansas State University.(2) These techniques were chosen because they utilize small size samples and they are available at the University of Wisconsin, Engineering Department.

Phase III

Controlled laboratory research is being conducted with new silk purchased from Test Fabrics. This silk was weighted with tin-silicate following an early patent formula. The silk was then treated with the

antioxidants and divided into two samples. One half of the sample was wrapped in acid free tissue and maintained in dark storage in the Helen Allen Collection, in the Department of Environment, Textiles and Design. The other half of the sample is currently being aged under ultraviolet light. These samples will be compared to unweighted new silk by testing with two common tests for deterioration. Tensile strength will be measured on a Scott Tester and silk yellowing will be measured on an Ultraviolet Colorimeter, both available in the Textile Research Laboratory in the department.

Results to Date

Historic Silk Samples

The historic costumes were used to document the type of deterioration and the possible cause. The type of weighting agent present was assessed with the following tests which yielded both expected and unexpected results SEM/EDS.

The Scanning Electron Microscope (SEM) was used to photograph individual silk fibers magnified up to 2000 times. Unlike the smooth fibers of new silk, the photographs of the historic silks show cracked and deteriorating fibers, even when the garment itself appears to be in fairly good condition. This finding indicates that physical damage is taking place at the microscopic level resulting in a slowly deteriorating condition. The x-ray equipment, EDS, was used to analyze the elements present on the surface of the silk. As expected, tin-silicate and iron were found in quantities up to 75% of the weight of the fabric. While this data must be analyzed further, the overall conclusion can be made that tin-silicate was the weighting

agent used on light and colored silks while iron is primarily found on black silks.

NAA

Neutron Activated Analysis (NAA) is a sensitive technique which detects any elements present except those with extremely short half-lives. The samples were irradiated in the neutron reactor and results given in parts per million. Two samples of new silk were also analyzed for comparison. As expected, the historic silks contained large quantities of tin and iron (up to 600,000 parts per million), while no such metals were present on the new silk.

While the Neutron Activated Analysis confirmed the presence of tin and iron found with SEM/EDS, it also generated some unexpected results, raising further questions. Trace amounts of gold were found on about half of the historic samples, with none found on the new silk. Since gold was never a known weighting agent, and the amount is slight (100 parts per million), the gold is most likely a contaminate in other metals.

The other, more serious finding is the presence of arsenic on all the historic samples. The amount of arsenic varies among the samples, but significant quantities (up to 10,000 parts per million) were found in over half the samples. No arsenic was found on new silk. There are two possible explanations for the presence of arsenic in the historic samples. Early museum practices included the application of arsenic as a pest control. This was especially true of natural history museums and presents a problem in those museums today.(3) Since most of the samples used in this study were originally part of a public museum

collection, the arsenic may be part of the museum environment. Another explanation is that arsenic is present as lead arsenate, a known weighting agent. Lead is an element with a very short half life and could not be confirmed with either test. However, there are common tests for lead which could be utilized for this study. The detection of lead would mean that the problem of arsenic on the historic samples is directly related to the weighting process. Further analysis is necessary to understand this data.

A simple test has been developed for the detection of arsenic which does not require a laboratory, but should be conducted in a well-ventilated area.(4) When handling weighted silk, good personal and laboratory hygiene is essential; the use of light rubber or plastic gloves and protective clothing is strongly recommended and a dust mask should be worn when working with any specimens which are dusting.

New Silk Samples

The new silk samples were weighted and treated with antioxidants. The antioxidants used in this study are phosphites, which have been shown to be effective nondiscoloring photostabilizing agents.(5) The antioxidants were dissolved in tetrachloroethylene, a solvent commonly used in cleaning procedures of museum textiles. The textiles were immersed and air dried. The samples to be aged were placed in an ultraviolet light chamber for six months. At the end of this aging, the samples will be subjected to testing for signs of comparative deterioration. Results of this analysis will be forthcoming.

- 1 Mary Ballard, et. al., "Weighted Silks Observed with Scanning Electron Microscopy", Proceedings of Scanning Electron Microscopy, (New Orleans, 1986).
- 2 L.A. Telthorst, Energy Dispersive X-ray Fluorescence and Neutron Activation Analysis of Historic Silk Textiles, (Unpublished Master's Thesis, Kansas State University, Manhattan, 1983).
- 3 C.A. Hawks, and Stephen Williams, "Arsenic in Natural History Collections", Leather Conservation News, 2, 1986, p.1.
- 4 Ibid., p.3.
- 5 Kimberly Asche and Patricia Cox Crews, "An Evaluation of Antioxidants for the Conservation of Museum Textiles, Clothing and Textiles Research Journal, 6, 1988, p.11.

**CONSERVATION ALERT: HARMFUL
BUTTONS & BUCKLES**

Recently we cleaned an interesting sheer cotton dress (c. 1930) belonging to the Provincial Museum of Alberta. The dress was in good condition except in a few localised areas. Below the buttons and at both ends of the fabric belt the fabric had a purplish discolouration and was very tender. We noted that the discolouration and tendering occurred in areas where the buttons and plastic belt were in direct contact with the cotton fabric. If you have read David Hillman's excellent article, "A Short History of Early Consumer Plastics", (IIC-CG Vol. 10&11, 1985/86), you will know that cellulose nitrate was commonly used for buttons, clasps, buckles, beads and stays in the late 19th and early 20th centuries. Cellulose nitrate plastic was sold under many trade names listed in Hillman's article and was often used as a substitute for ivory. It is a highly flammable material and slowly releases acidic fumes of nitric acid. If left in contact with cellulosic fabrics for a long period, cellulose nitrate may cause acid damage like that we saw on the cotton dress.

We washed the dress and belt in order to clean and neutralize them. Because of the damage the buttons and belt buckle were causing, it was necessary to remove them and store them in air tight containers. We always try to avoid removing buttons and other findings from historic garments, but sometimes this action is necessary. Incidentally, we confirmed that the plastic was giving off acidic fumes by wrapping the buckle in polyester film with a piece of litmus paper, then heating the buckle at 40C for half an hour. The litmus paper turned pink. The first sign of

of problem buttons will be a discolouration of the fabric below the buttons. Blues and browns typically change to a pinkish shade if exposed to acidic fumes. The following test can be used to identify a small fragment of nitrocellulose: add one drop of 1% diphenylamine reagent (1.0 g of diphenylamine in 100 g of conc. H₂SO₄) to the fragment and the nitrocellulose will give a blue colour.

Nancy Kerr
University of Alberta

NEWS FROM THE ROYAL ONTARIO MUSEUM

The Textile lab is currently concentrating on preparing materials for new galleries.

For the European Gallery, conservation of 18th c. costumes has been completed and treatment started on 19th c. costumes and accessories. Two dozen laces from the 16th - 19th c. have already received treatment including a bolster lace pillow. Three Torah binders, on loan from the Betz Tzedec Museum are also ready.

For the Egyptian Gallery, a group of eight linen tunics and winding sheets, most of them from the New or Middle Kingdom, are also partly finished. They required mostly cleaning and mounting and in some cases, special care with a fringe. The oldest textile fragment from the Middle Kingdom still awaits conservation; the fragment is not only pleated but the pleating is twisted diagonally at regular intervals forming an intricate pattern.

Another group of textiles for the Egyptian Gallery consists of painted textile fragments from

2000-1500 B.C. Working with Diane McKay, our paintings conservator, the lab is now establishing the requirements for such objects which cannot be treated solely as textiles or as paintings.

Several volunteers and students have been working in the Textile Conservation Lab. Ruth Atwood has been here for a period of two months before she entered the Masters Program in Conservation at Queen's University. Debbie Livingston, a student from the Ontario College of Art was in the Lab once a week from September 1987 to May 1988 completing work for an independent studies course for her diploma in textiles. Brenda Bennett from Sir Sandford Fleming College in Peterborough is now at the end of her four-month internship. She did work on several objects, one of them a badly damaged upholstery panel covered with glue all along the edges. One third of the silk embroidery motif was also covered with a layer of shiny adhesive. Another of Brenda's projects was an umbrella with torn and frayed lace edging. Mrs. Marion Postlethwaite and Mrs. Jeune Cartwright are working in the lab as volunteers one day a week. Marion recently completed a Chinese kimono for the Discovery Gallery and is now working on a Chinese wallhanging, struggling successfully with reattaching gold metal threads. Jeune is working with beaded dresses from the 1920's. She recently completed a reproduction of the Order of the Garter from the Queen's coronation dress. The reproduction ribbon was ordered from the Central Chancery of the Orders of Knighthood in London, England.

Izabella Krasuski
Conservation Department
Royal Ontario Museum

REPORTS ON CONFERENCES, MEETINGS,
COURSES....

Stitching Symposium

"Stitching" is a difficult and occasionally controversial topic among textile conservators. This is an aspect of our work which connects our profession to hundreds of amateurs in uncomfortable ways. If you don't believe this is true, think of how careful we are to call what we do with a needle and thread stitching rather than sewing. Another example of the controversial nature of this subject is the long gestation period for the Stitching Symposium, sponsored by The Textile Conservation Group, and held at the Fashion Institute of Technology (FIT) in New York City April 16, 17, and 24.

The first day of the symposium was eight presentations, by textile conservators and others. The second, a hands-on workshop was offered on two days to accomodate all registrants.

The program on the 16th was divided into two parts: in the morning, speakers gave an overview of stitching practices, and the title of the afternoon session was "Conservation Stitching Applications."

The morning session began with a welcome and introduction written by Patricia Ewer, delivered by Bruce Hutchison. (Ms. Ewer, the organizer of the Symposium, moved to North Carolina in late March, and was unable to attend.) This introduction noted that stitching is a skill we all take for granted but which, nonetheless, is one of the most important tasks we perform regularly.

Vicky Kruckeberg, Curator at the Detroit Historical Museum, talked about traditional stitching techniques, and noted that conservation literature with consistent and detailed information on stitching, the stitches chosen for a treatment, and/or rationale behind those choices, does not exist. She also outlined a criteria for "good" stitching: it must be strong -- but not too strong, tight -- but not too tight, smooth, supporting, unobtrusive. To achieve this end, we rely on an understanding of the materials and operations involved that is never articulated.

Betty Kirke spoke next. She began by describing her background, first as a "home sewer" then training in haut couture at the Art Institute of Chicago, a shift into the mass production side of clothing business, and ultimately to costume conservation at FIT.

Ms. Kirke described the differences between traditional haut couture and mass production sewing. She categorized mass production in general as a feat of engineering, with everything thought out, while haut couture implies the best sewing, and often little planning. The absorption into each of these branches of some of the methods of the other was noted, too. Ms. Kirke continued with a discussion of the different kinds of sewing used in clothing construction, described a rationale for each situation of use, and showed diagrams of stitches, clothing details where such sewing is employed, and occasionally the adapted or comparable sewing in a mass-produced item.

The third speaker of the morning was Gillian Moss, Assistant Curator

at the Cooper Hewitt Museum. In her talk on darning samplers, Ms. Moss told of their function as lessons in the repair of damaged household linens. Regional and chronological differences were mentioned, and the variety of weaving patterns imitated were also remarked. Ms. Moss pointed out that the motive for learning to darn was repair for re-use, and not stabilization for study and exhibition, but the means to these different ends are sometimes similar, as in the need to anchor the repair patch in a strong section of the goods.

The final speaker of the morning was Polly Willman, Costume and Textile Conservator at the Brooklyn Museum. She reported some results of the questionnaire distributed with the notification of the Stitching Symposium. This 4-page survey asked for information on stitching practice, supplies, and training. Response was about 2%, which Ms. Willman felt was significant for analysis. Remarking that other information can and will be culled from the responses, she presented the following:

- Average years in conservation: 9. The questionnaire had asked for response based on the past five years.
- Most used stitches: running stitch and couching stitch. Running is used for mounting textiles, attaching velcro, and mending seams, couching for repair. Tacking stitches were a close second to these two.
- Greatest range of stitches indicated: mounting flat textiles.
- Least range of stitches indicated: attaching velcro. Repair of frayed tears and repairs to holes or frayed holes fell between the extremes in variety of stitches employed.

Straight needles are preferred, with the curved needle cited for mounting and beading needle for repair. Of threads, Ms. Willman noted that cotton below size 100, silk sizes A & B, embroidery floss and crepeline are the preferences of most respondents. Linen, polyester/polyester blends, and nylon are used infrequently.

On return from lunch, Zoe Annis-Perkins described the technique she uses to mount flat textiles at the St. Louis Art Museum. Stating that she has yet to find an ideal fabric for this situation, she prefers a satin-weave undercloth when creating a permanent mount, as its structure provides additional support. She machine-sews this undercloth a foam-board, which raised some discussion from the symposiasts whether the stitch line was a stronger or weaker point in the mounting system. Ms. Annis-Perkins continued with her description of mounting a textile; she stitches it to a fabric, and attaches that fabric only to the support, using an overcast (herringbone) stitch. If the article is to be contained in a frame, this is built out at the bottom so the textile is never stored or displayed perpendicular to the floor.

Polly Willman's afternoon talk was called "Stitching Techniques Used in the Repair of Costumes and Textiles". She began by acknowledging that stitching is not the sole remedy in repair but that it is a time-proven technique. She feels that damage from stitching so often cited as the justification for the use of adhesives is a result of inappropriate stitching techniques rather than impropriety of method. She then continued, emphasizing first the need to understand the materials employed, and describing the traditional

functions of the stitches cited in her questionnaire. Ms. Willman also noted the range of objectives for stitching; to sew two pieces of fabric together, to repair, to embellish. She stressed the use of support fabric as an aid to stabilization, transferring a continuity of weave. Once the stitches have been taken, both stitches and support fabric should act to immobilize the object and so protect it from further damage. The technique employed should vary with the object and type of damage.

Bruce Hutchison, Tapestry Conservator at The Cathedral of St. John the Divine, then presented "Stitching Techniques Applied to Large-Scale Textiles". He described types of stitches encountered in large textiles, tapestry in particular. This included a discussion of reweaving as a repair technique, original and replacement stitches encountered in joining slits, the variety of stitches used with different methods of support - partial, full, or vertical straps, and stitches for display devices. Mr. Hutchison did mention that the problems encountered in large textiles though in theory identical to those in smaller-scale objects, are magnified disproportionately. This is particularly evident in devising a support system for the whole, and he referred to the need to distribute the tremendous weight safely, while causing neither visual distortions nor potential locii for further damage.

The final speaker of the day was Ann Matthews, graduate student in the Department of Textile Management and Technology at North Carolina State University. Her talk was called "Monitoring Stitching: Industrial Environment", and it described a method to quantify needle action in

machine sewing and the potential damage resulting to fiber or fabric.

The day concluded with a question and answer session.

The second day, conceived, organized and led by Polly Willman, was an occasion to discuss the practical aspects of stitching. Different stitches and their appropriate uses were outlined, as were the variety of needles and threads and the criteria to judge which type of stitch to employ. Emphasis was on self-teaching, and a sharing of practices among participants. The balance of the day was spent practicing the stitchwork discussed.

Vicky Kruckeberg pointed out the paucity of publications and discussions on stitching, and this lack was brought home by the other speakers, both directly and indirectly. No one disputes the need for more presentation and discussion of stitching practices in textile conservation, or the need for the examination of many aspects: from such simple areas as development of a common glossary of terms, to study of the physical forces involved in the types of stitches, to the importance of such variables as thread type and support fabrics. The Stitching Symposium was a beginning, but it should not also be the end.

Sarah Lowengard
Textile Conservator
1080 Park Avenue, #5W
New York, N.Y.
10128 U.S.A.

Inuit Clothing Conference

The Inuit Clothing Conference sponsored by the Centre for Northern Studies and Research was held at McGill University May 5-7, 1988. It brought together, for the first time, a group of very knowledgeable people from Denmark, Greenland, Norway, and points north and south in the United States as well as Canada who were all interested in Inuit and arctic clothing.

Summarizing the list of topics is difficult because of fear of forgetting to mention all the important aspects that were covered. Presenters covered the following topics:

Inuit furs as fashion; clothing in Inuit legends; introduction to the Inuit clothing collection at the Canadian Museum of Civilization; symbolism in Inuit clothing; the Amauti; artistic tradition of the parka; arctic clothing in Europe; use of Inuit clothing by British Explorers in the late 19th Century; influences that physical and social environment have on Inuit clothing; prehistoric ulus; skin clothing in Kaklignmiut culture of Alaska; ownership markings; working with the Inuit clothing collection at the National Museum of Denmark; tattooing; and videos on sealskin clothing and making caribou clothing as well as an entertaining fashion show of contemporary Inuit skin clothing and a visit to the new exhibit called Ivalu presently on display at the McCord Museum.

A concern for the safety of curators and conservators who work with previously treated collection was raised. It was discovered that the Inuit clothing collection at the National Museum of Denmark had been treated with DDT as a pesticide. Complicated attempts to remove it failed to remove all of it and the collection is now very

hazardous to be handled. A word of warning was given: if there is no sign of infestation or insect damage in an old piece that is just entering the collection, there is a distinct possibility that it has been treated with a highly toxic chemical such as DDT or arsenic.

This author attended the conference with no prior knowledge of Inuit clothing and left with a healthy respect and admiration for the Inuit people and their intimate knowledge and relationship they have with their environment. Traditionally, an Inuit's most valued possession was his set of skin clothing. The mere fact that the Inuit survived in such a harsh and unforgiving climate is awe inspiring.

Ruth Mills
Costume & Textiles Resource Group
National Historic Parks & Sites
Directorate
Canadian Parks Service

There are plans to publish the proceedings of this three day conference and for more information, please contact:

Centre for Northern Studies and
Research
McGill University
550 Sherbrooke Street West
Suite 460, West Wing
Montreal, PQ, H3A 1B9

EXHIBITIONS

Canada

"Traditions of Inuit Clothing"
McCord Museum of Canadian History
Montreal, Quebec
Through January 10, 1989

"Unlike the Lillies: Doukhobor
Textiles and Tools
Royal British Columbia Provincial
Museum, Victoria, BC
Through July 8, 1988

Ukrainian Museum of Canada
Saskatoon, Sask.
October 30 - December 4, 1988

"Treasures from Trunks"
Dugald Costume Museum
Dugald, Manitoba
Through mid November 1988

"Birth Symbols"
Museum for Textiles
Toronto, Ontario
Through June 88

"Tibetan Rugs"
June - September 88

U.S.A.

"Toiles de Joie"
The Baltimore Museum of Art
Jean and Allan Berman Textile
Gallery
To June 26, 1988

"Fans"
The Philadelphia Museum of Art
Directors Gallery
Philadelphia
To July 24, 1988

"American Antique Basketry"
Brandywine River Museum
Chaddsford, PA
To August 28, 1988

"Sleep Tight": Quilts, Coverlets
and Sleepwear from the
Collection"
Germantown Historical Society
Germantown, PA
Through 1988

"Fortuni"
De Young Memorial Museum
San Francisco, CA
To October 16, 1988

"Spain's Carpet Heritage"
The Textile Museum
Washington, D.C.
To October 2, 1988

"Interlacing: The Elemental
Fabric"
The Textile Museum
To August 14, 1988

"Simply Stunning, 200 Years of
Fashion"
Cincinnati Art Museum
To September 3, 1988

"Hollywood and History"
Boston Museum of Fine Arts
Boston, Mas.
To August 14, 1988

Europe

"Ladders of Life: Banjara and
Gods, Animals, Flowers"
Museum fur Volkerkunde
Basel, Switzerland
To July 1988

"Womens' Work: The Subversive
Stitch"
The Whitworth Art Gallery
University of Manchester
Manchester, UK
To July 30, 1988

"Budaya Indonesia: Indonesian
Woven Textiles"
Tropenmuseum
Amsterdam, Netherlands
To August 21, 1988

"Textiles from Thailand"
Musée de l'Impression sur Etoffes
Mulhouse, France
To July 31, 1988

"Vogeldarstellungen auf Textilien"
Abegg-Stiftung
Riggisberg, Switzerland
To October 30, 1988

"A COAT OF MANY COLOURS" is a major exhibition exploring the rich cultural diversity of the Jewish community in Canada. Opening in April 1990, the exhibition will be among the first special presentations of the Canadian Museum of Civilization in its new building. Visitors will see a panorama of Jewish life in Canada, starting with Jewish fur traders and settlers and continuing to the present day.

Working from a uniquely personal perspective, the exhibiton will feature videotaped interviews with the Jewish Canadian donors of many of the exhibition's 300 artifacts. The first-person viewpoint will help illuminate both the history of the objects and the variegated character of Canada's Jewish community. To broaden its multifaceted outlook, the exhibition will also employ music, crafts, and contemporary works of art depicting the lives of Jews in Canada.

A primary focus of the exhibition will be the vital cultural interchange at the heart of Canadian society - the many ways the Jewish community has helped shape the Canadian nation, and how in turn the Canadian environment has influenced Jewish life.

Many exciting textiles have already been located for this exhibition. Some of the more interesting ones include fibre artist Celia Brauer's "parochet" (Torah ark curtain), depicting Jewish ritual symbols against a backdrop of the mountain landscape of British Columbia, and a "chuppah" (wedding canopy) c. 1864, of illuminated gold leaf on Chinese silk, made by the women congregants of Temple Emanu-el in Victoria. We have also found a hand-embroidered sampler, c. 1771, made by Elizabeth Judah of Quebec, from the collection of the Gershon and Rebecca Fenster Gallery of Jewish Art in Tulsa, Oklahoma; a sequined satin Coronation Robe, worn by Rabbi Haft on the occasion of King George's Coronation in 1937 (Folk Life collection, Provincial Museum of Alberta); and a tapestry depicting Theodore Herzl, father of Zionism, from the Bezalel Art School, Jerusalem, and given as a bar mitzvah gift from a group of Christian medical missionaries.

For more information on the collections being acquired for "A Coat of Many Colours" project, contact: Sandra Morton Weizman, Associate Curator, "A Coat of Many Colours" project, Canadian Centre for Folk Culture Studies, Canadian Museum of Civilization, Ottawa, Ontario, K1A 0M8. (819) 997-8189.

MCCORD MUSEUM OF CANADIAN HISTORY
Ivalu: Traditions of Inuit
Clothing
April 20, 1988 - January 10, 1989



Man's winter dress from the Iglood Eskimos made entirely of soft caribou skins and probably the warmest clothing in the world. The National Museum, Copenhagen.

The McCord Museum of Canadian History is proud to present a world premiere, a major exhibition of international scope which celebrates the 4,000 year traditions that produced the clothing needed for survival in the Canadian Arctic. Ivalu: Traditions of Inuit Clothing was officially inaugurated by the Right Honourable Jeanne Sauv , Governor General of Canada, and opened to the public on April 20, for a 10 month period. Senator Willie Adams from the Northwest Territories and Sarollie Weetaluktuk, President of the Kativik School Board, will also be present. The Museum has received the full support and active participation of Inuit organizations for this important project.

Ivalu, in the Inuit language (Inuktitut), means sinew. Inuit use it to sew their clothing and to make cordage for drawstrings and tool lashings.

This exhibition will feature over 200 artifacts which document the prehistoric evidence of tailored skin clothing in the Canadian Arctic, outline its technical, artistic and social importance to Canadian historic Inuit, and indicate its continued relevancy in contemporary Canadian Inuit society. It is the first comprehensive exhibition which brings together clothing and tools of manufacture from prehistoric times to the present. Visitors will be introduced to the complete process of Inuit clothing construction, from the hunt through the use of ingenious tools and techniques, to the artistry and symbolism of the completed garment.

Mrs. Betty Issenman, guest curator, and Mrs. Catherine Rankin, associate curator for Ivalu, are experts in the area of Inuit clothing and artifacts. Their extensive knowledge of Inuit culture and many years of research in the preparation of this exhibition will contribute to a better understanding of the Inuit and their way of life. This knowledge will be documented in a fully illustrated 100 page catalogue of the exhibition which will be available at the Boutique McCord.

In conjunction with the exhibition, the Centre for Northern Studies of McGill University, co-directed by Dr. Marianne Stenbaek, has sponsored an international Inuit Clothing Conference May 5-7, 1988. (See Conference Report)

Most of the artifacts which are presented have been selected from the McCord collections. Other artifacts include loans from major Canadian and international institutions such as the Canadian Museum of Civilization, Ottawa, the Musée de la civilisation, Québec, the Groenlands Landsmuseum in Nuuk, and the University Museum, Philadelphia, U.S.A. Several special events are planned to familiarize the visitors with Inuit culture, such as Inuit skin clothing sewing and beadwork demonstrations.

Information: Marie-Claire Morin
Director of Development and
Communications
(514) 398-7100

CONFERENCE, COURSES, SEMINARS

July 7-11, 1988, Chicago, IL.
Convergence '88, Scholar's Refereed Research Seminar. Four papers will be presented by textile scholars on subjects of original research relative to the history, theory, practice and development of textile knowledge which have not been previously published or presented. Contact Prof. Naomi Whiting Towner, Department of Art, Illinois State University, Normal, IL 61761-6901.

July 11-15, 1988, Manhattan, KS.
Experimental Textiles: Textile Conservation. Contact Dr. Mary Don Peterson, Department of Clothing, Textiles and Interior Design, Justin Hall, Kansas State University, Manhattan, KS 66506, (913) 532-6993.

November 3-4, 1988, Washington, DC.
Harpers Ferry Regional Textile Group Conference - 20th Century Materials, Testing and Textile Conservation. Contact Katherine Dirks, Division of Textiles, National Museum of American History, Room 4131, Smithsonian Institution, Washington, DC 20560, (202) 357-1889.

Courses

Dye Analysis. Dr. Schweppe came in early November of 1987 and taught a very successful course on the dyeing and dye analysis of early synthetic dyes (Reported in the last issue of the Newsletter). He will be returning October 3-7, 1988 to teach the dyeing and dye analysis of natural dyes.

Dye Workshop. A pilot dye workshop was run in April, 1988 for textile conservators interested in dyeing wool, silk, cotton, and polyester support fabrics and threads for conservation work. There were short "lectorettes" on laboratory safety, toxicity, dye formulae, dye chemistry, and suppliers and industry standards. Participants dyed up mono, di-, and trichromatic swatches and traded them, along with the recipes. Another Workshop will be held after the Harpers Ferry conference. The course fee is \$75. (includes lunch) for the four days. There is also planning for another spring, 1989 Workshop, probably to coincide with the annual Cherry Blossom festival and nice weather (early April, 1989).

Pest Control in Museums. A one day seminar is tentatively scheduled for Wednesday, November 2, 1988 (the day before Harpers Ferry) with Dr. Gary Alpert as the speaker on textile pests, life cycles of these pests, current caveats (like toxicity), and remedial measures. The course fee will be somewhere between \$25. and \$40. (includes catered luncheon).

Please include full payment (payable to Smithsonian Institution) and a brief resume with this application.

Send to:
Course Coordinator
CAL/MSC
Smithsonian Institution
Washington, D.C.
20560 U.S.A.

HEALTH AND SAFETY

Arsenic Found in Historic Textiles

Textile conservators and other handlers of deteriorating fabrics often report that dust associated with these materials may contain hazardous substances including mold and mildew spores, irritating fiber particles, pesticides and more. A recent analysis indicates that at least one type of fabric dust may also contain arsenic.

Univerlity of Wisconsin researcher, Merrill Horswill, found significant amounts of arsenic (in the range of .2 percent) in 30 weighted silk costumes made between 1850 and 1930. Ms. Horswill is a PhD candidate and Project Director for a Stella Blum Research Grant sponsored by the Costume Society of America. Her project was designed to find antioxidants to retard the aging of textiles and the arsenic findings were unexpected.

Ms. Horswill is now attempting to determine whether the arsenic is present as the result of pest control treatment, application of arsenic-containing silk weighting chemicals or some other source.

Although arsenic's hazards are well known, a new toxicological profile for arsenic is being issued by the U.S. Public Health Service. It succinctly characterizes arsenic's systemic toxicity and potential for causing cancer especially in the liver, bladder, kidney, and lung. It also notes that skin contact with inorganic arsenic also can cause a number of skin abnormalities which may increase the risk of skin cancer.

The presence of arsenic in weighted silk points up the general need to prevent exposure to all textile dusts. Some suitable precautions include wearing light

rubber or plastic gloves, good personal hygiene, use of protective lab coats or smocks (and hair covering if necessary), isolation of the work from eating and living areas, and working in specially ventilated areas or wearing respiratory protection. Ideally, work on deteriorating arsenic-containing fabrics should be done in fume hoods or similar local exhaust systems.

Monona Rossol

For further information contact:
Merrill Horswill at (608) 756-0235,
or Monona Rossol, ACTS, (212)
777-0062.

NEW PUBLICATIONS

This book, TEXTILE CONSERVATION AND RESEARCH is the VII. volume in the serie "Schriften der Abegg-Stiftung". The author shares her thirty years of work with ancient textiles. Mechthild Flury-Lemberg, who has been in charge of the Abegg Foundation's Textile Department since 1967, is a textile restorer and arthistorian - a combination which makes this account of her experience a valuable reference work for anyone involved with old textiles.

An introductory text setting out the scientifically based methods of textile conservation is followed by reports of the restoration of specific textiles. The more than one hundred examples range from the restoration of an Egyptian child's tunic through the reconstruction of an Etruscan linen book to a description of textile finds from a Venetian shipwreck. They provide detailed and fascinating insights into the adventure of textile research, even for non specialists.

TEXTILE CONSERVATION AND RESEARCH
Includes a technical/scientific catalogue and a chapter about training textile restorers. 530 pages, 350 color plates, 452 black-and-white illustrations, 176 drawings, linen-bound. It will be available in English or German. SFr. 245,-

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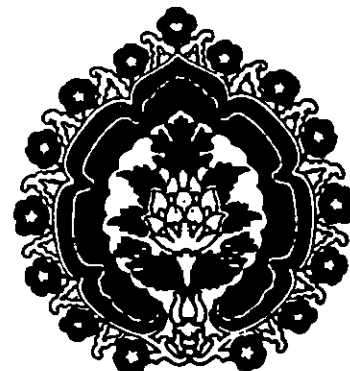
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Library of Congress Produces
Directory to Quilt Collections in
the U.S. and Canada

The Library of Congress, in cooperation with Acropolis Books Ltd., of Washington, D.C., has just published a major guide to quilt collections. The 255-page illustrated publication, "Quilt Collections: A Directory for the United States and Canada", lists collections as well as documentation - manuscripts, photographs, and recordings - held by museums, archives, and other public institutions.

Organized by country, state, and alphabetically by institution, the entries provide detailed information on 747 collections, as well as providing addresses and visiting hours.

The directory is based on a questionnaire survey conducted by the American Folklife Center of the Library of Congress, and was compiled by Lisa Turner Oshins, quiltmaker and program specialist at the center. Ms. Oshins, who worked on the project over a period of three years, has a master's degree in art history from George Washington University in Washington, D.C.

The directory is illustrated with 16 color plates and numerous historic black-and-white photographs from the Library's collections. The publication includes an index of participating institutions, a selected bibliography, the questionnaire form used in the survey, a glossary, a section on quilt conservation, a selected filmography, a list of statewide and regional quilt documentation projects, and a directory of major quilt organizations.

Copies of the directory may be ordered from the American Folklife Center, the Library of Congress, Washington, DC 20540, for \$18.95 in softcover, \$24.95 in hardcover. Add \$2 per order for postage and

handling. Please make checks payable to the American Folklife Center. Book stores should address inquiries to the publisher, Acropolis Books Ltd., 2400 17th St., N.W., Washington, DC 20009-9964, or call (202) 387-6805.

The quilt collections directory has been made available through the Elizabeth Hamer Kegan Fund, a revolving fund designed to support the center's publishing activities and its presentation of folklife materials in the Library's sales shop.

POSITION AVAILABLE

Conservator, Textiles
Glenbow Museum
Calgary, Alberta

We require an experienced professional to work in the textile section of our conservation department. Under the supervision of the Chief Conservator the successful applicant will be responsible for all aspects of conservation for the Museum's textile collections.

Responsibilities include, planning and scheduling remedial treatments as well as monitoring and making recommendations regarding storage, handling, exhibition (including packing and transportation), and environmental requirements.

Requires successful completion of a masters program or equivalent and five years of directly related experience. Ability to work effectively with others if necessary.

Salary range: \$23,619-\$31,607
(1987-88 rates)

Please forward your application and resume to:

Fred Greene
Chief Conservator
The Glenbow Museum
130 - 9 Avenue S.E.
Calgary, Alberta T2G 0P3

Back issues of Textile Conservation Newsletter are available for \$3.50 per issue including postage and handling.

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Canada K1S 5J1

or:

Gail Sundstrom-Niinimaa
Western Editor
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Calgary, Alberta
Canada T2M 4K4

We welcome submissions on:

Textile Conservation
History
Technology
Analysis
and information on upcoming
courses, conferences and
exhibitions.

TCN

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