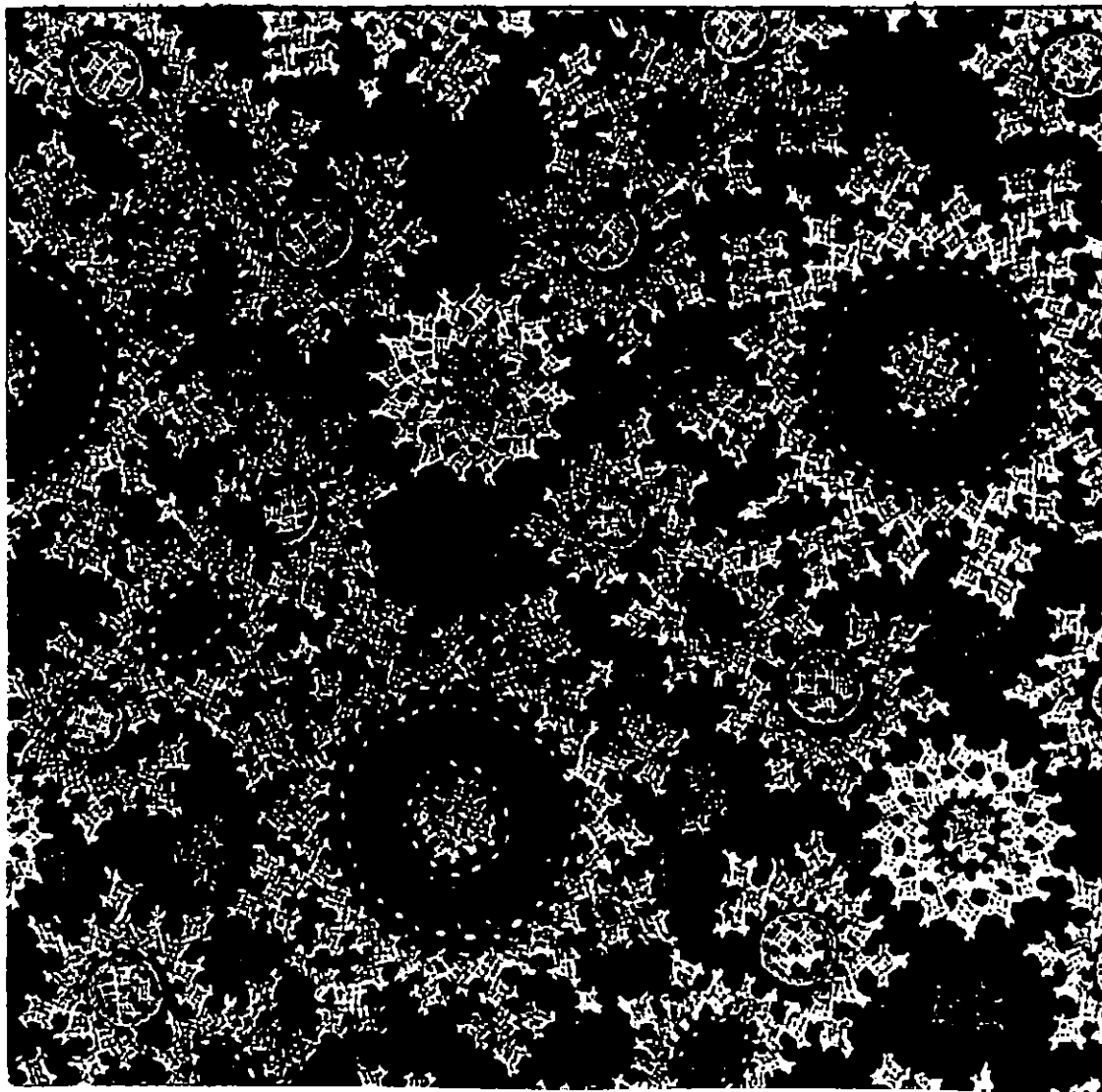


**TCN**  
**TEXTILE**  
**CONSERVATION**  
**NEWSLETTER**



*Number 22*

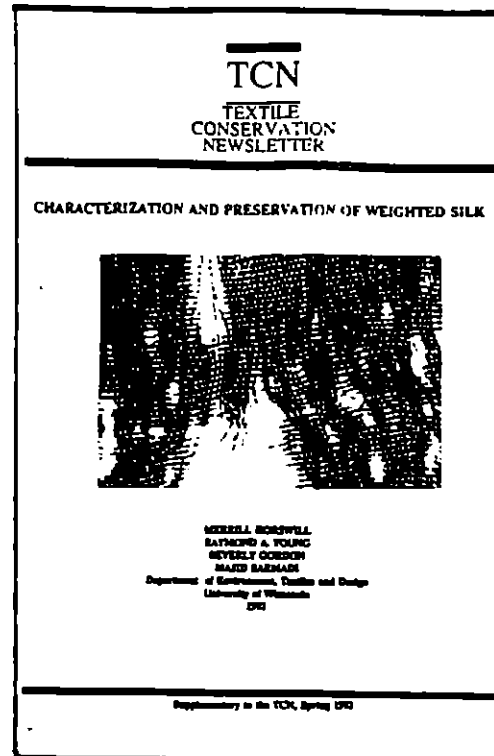
*SPRING 1992*

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## FROM THE EDITORS

We would like to welcome Cynthia Cooper who has joined the editorial team of TCN. Cynthia works part time at the Musée Marsil in St. Lambert, Quebec as curator. She is also working on her masters degree in Historic Costumes and Textiles from the University of Rhode Island; she teaches history of costume at Lasalle College in Montreal and volunteers in costume conservation at the McCord Museum. Cynthia will be taking over the duties of Treasurer by the Fall 1992.

We are also pleased to announce the TCN 1992 Spring Supplement entitled "Characterization and Preservation of Weighted Silk", by Merrill Horswill who is a Phd candidate at the University of Wisconsin and was the first recipient of the Stella Blum grant for scholarly research in 1989.

The spring issue covers again several interesting articles and reports; from a study of the preferred concentration of surfactions specifically "ORVUS WA Paste" to planning a move to compact storage at the new McCord Museum, and recent developments in costume program at Louisbourg.

The other news is that we are starting an exchange of information with the United Kingdom Institute for Conservation Textile Group (UKIC).

If any of the TCN readers have information which you think might interest UK textile conservators we would be pleased to receive it.

And of course we are as always looking forward to your submissions, please let us know or send them in.

# REPORT ON ORVUS WA PASTE TESTS

The Textile Conservation Laboratory at Biltmore House has been conducting small in-house tests for its own use to investigate the surfactants commonly used in conservation. The focus of these tests is to determine the most effective surfactants for our purposes and to determine the most effective procedure for their use. The purpose of the first test, executed in 1990, was to compare the soil removal capabilities of "conservation-appropriate" surfactants. The report from that investigation was printed in the Postprints of the Joint Session of the Painting and Textiles Specialty Groups from the 1991 Annual Meeting of the AIC. The following report is from the second test conducted in 1991. The purpose of this test was to study the soil removal capabilities of different surfactant concentrations on wool. In 1992, this test will be repeated on a cotton substrate.

## Proctor & Gamble Co. Orvus WA Paste (anionic)

Previous tests comparing the soil removal capabilities of surfactants used in conservation determined that Orvus WA Paste is an effective soil removal agent on wool. The purpose of this experiment was to estimate at which percentage of concentration Orvus WA Paste performs best. Proctor and Gamble's product literature recommends adding 1 to 3 oz. to each gallon of water, or a concentration range of approximately 0.77% to 2.3% concentration range.

Access to a spectrophotometer was not possible for the time frame of this test. Comparisons to an unwashed sample of the pre-soiled fabric were made by visual examination.

## CONCENTRATION TESTS

The following concentrations of Orvus WA Paste were tested in this order:

1. 0.1% (2 ml to 2 liters of deionized water)
2. 0.15% (3 ml to 2 liters of deionized water)
3. 0.2% (4 ml to 2 liters of deionized water)
4. 0.5% (10 ml to 2 liters of deionized water)
5. 1.0% (20 ml to 2 liters of deionized water)
6. 1.25% (25 ml to 2 liters of deionized water)
7. 1.5% (30 ml to 2 liters of deionized water)
8. 1.75% (35 ml to 2 liters of deionized water)
9. 2.0% (40 ml to 2 liters of deionized water)

## TESTING PROCEDURE

### A. Presoiled Samples

The pre-soiled test samples were obtained from Testfabrics Inc. These samples were first developed for the Navy during World War II. They were designed to test detergents which would be used on white cotton and denim where the solvent would be salt water. The main soil concerns were grease, oil and soot from furnaces.

The substrates, obtained from Testfabrics Inc., were 100% wool.

The standard soil media consisted of the following components:

1.3%	Keltex (Thickener)
2.2%	Comstarch
72.4%	Water
14.0%	Oil (Mineral)
0.42%	Oleic Acid
0.36%	Morpholine
1.7%	Vegetable Fat (Spry)
0.3%	Butanol
4.4%	Solvesso 150
0.7%	Ethyl Cellulose
0.7%	Carbon Black

Total 98.48%

The standard soil media was printed on the 7 1/2 inches wide substrate yardage in a pattern measuring 3 3/4 inches wide by means of an engraved print roller. The printed substrate was dried and heat cured using an electrically heated oven. (Information obtained from Testfabrics Inc.)

Upon receipt the substrate was cut into samples measuring 7 1/2 inches by 4 inches.

B. Control samples were set aside for visual comparison following testing.

C. A 10 liter pot of deionized water was set to simmer for use in subsequent steps.

D. Shallow plastic wash trays, similar to those used in photographic processing, were used in order to totally immerse the samples and allow enough room for agitation. The sample was immersed in about 1 inch of water (2 liters).

E. For each washing, the samples were presoaked in a bath of deionized water at an average temperature of 35°C for ten minutes.

F. The pH of the presoak bath with the sample was tested with Colorphast test strips and recorded. The pH of these baths for all the samples was 5.3.

G. The surfactant was mixed with 2 liters of deionized water to produce the nine selected varying concentrations. The temperature was maintained at an average of 35°C. In some cases the solution was heated on the stove in order to maintain a steady temperature.

H. The sample was removed from the presoak bath and the used water was discarded from the tray.

I. The surfactant solution was poured in the same wash tray and the presoaked sample was immersed into the solution.

The sample was agitated continuously for five minutes by gently pressing the solution into the sample with natural sponges. For the remaining twelve minutes, the sample was agitated periodically. The sample remained in the surfactant solution for a total of seventeen minutes. The pH of the sample and surfactant solution was tested at the end of this process and recorded. The pH ranges included 5.3 for sample #1, #2 and #3, 5.5 for samples #4, #5 and #6, 5.7 for sample #7 and 5.7 - 5.9 for samples #8 and #9.

J. The sample was immersed into 2 liters of fresh, deionized rinse water which maintained an average temperature of 35°C. The sample was then slowly agitated in the rinse water for 3 to 5 minutes.

K. A repeat rinsing was performed. The sample was removed between rinses.

L. After the third and final rinse bath, the sample was removed and placed on a terry cloth towel and allowed to air dry.

M. The tray was washed between each surfactant test and each step.

## TEST RESULTS

## CONCLUSIONS

According to the visual evaluations of the wool substrates after testing, Orvus WA Paste in concentrations of 0.5% to 2.0%, produced a range of similar cleaning results. These concentrations were superior in perceptible degrees to the samples #1-0.1%, #2-0.15%, and #3-0.2% concentrations. In sequence sample #1 exhibited the least amount of soil removal.

The visual comparison of an unwashed sample to a washed sample proved that #4, the 0.5% concentration, and #5, the 1.0% concentration, both exhibited the most soil removal. On the other hand, when visually comparing one cleaned sample against another, the difference in the soil removal of the six samples, #4-0.5%, #5-1.0%, #6-1.25%, #7-1.5%, #8-1.75%, and #9-2.0%, was not that particularly distinguishable. Within this group, less soil removal was observed on the last two samples, #8-1.75% and #9-2.0%.

To establish a quantitative measurement of the difference and to determine if there was any redeposition of the soil, a spectrophotometric process would be required. Also, the noted distinctions between the six samples #4-#9, may simply be due to variables in the wet cleaning testing procedure.

It is interesting to note that the pH increased during the test in bath as the percent concentration of surfactant increased.

Soil removal ratings from most to least are as follows:

### GREATER SOIL REMOVAL

- #4. 0.5%
- #5. 1.0%
- #6. 1.25%
- #7. 1.50%
- #8. 1.75%
- #9. 2.0%
- #3. 0.2%
- #2. 0.15%
- #1. 0.1%

### LESSER SOIL REMOVAL

When using such information in proposing a wet cleaning treatment of an historic textile object, it would be necessary to consider the fiber types, age, degree of degradation, soil type and dye fastness. Based on these factors the percent of surfactant concentration may need to be adjusted, although it seemed best at 0.5% or 1.0% from this test. For example, a simple factor such as rinsing capabilities might indicate the use of a lower percent concentration.

The variance in the soil removal capabilities at different surfactant concentrations creates more questions than answers.

It is hoped that this small in-house study at Biltmore House will promote future studies on this subject. Questions arising from this study include:

- a) Is the higher concentration of surfactant necessary to prevent soil redeposition? Is this the only reason for higher concentration?

b) What are the effects of pH on the soil removal capabilities?

c) What surfactants are compatible with what soil types?

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Rebecca Rudolph  
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Parts of this paper were reproduced from "Surfactant Comparison Test" by Melissa Boring and Patricia Ewer, published in Postprints of the Joint Session of the Paintings and Textiles Specialty Groups, 1991.

Editorial assistance was provided by Catherine McLean.

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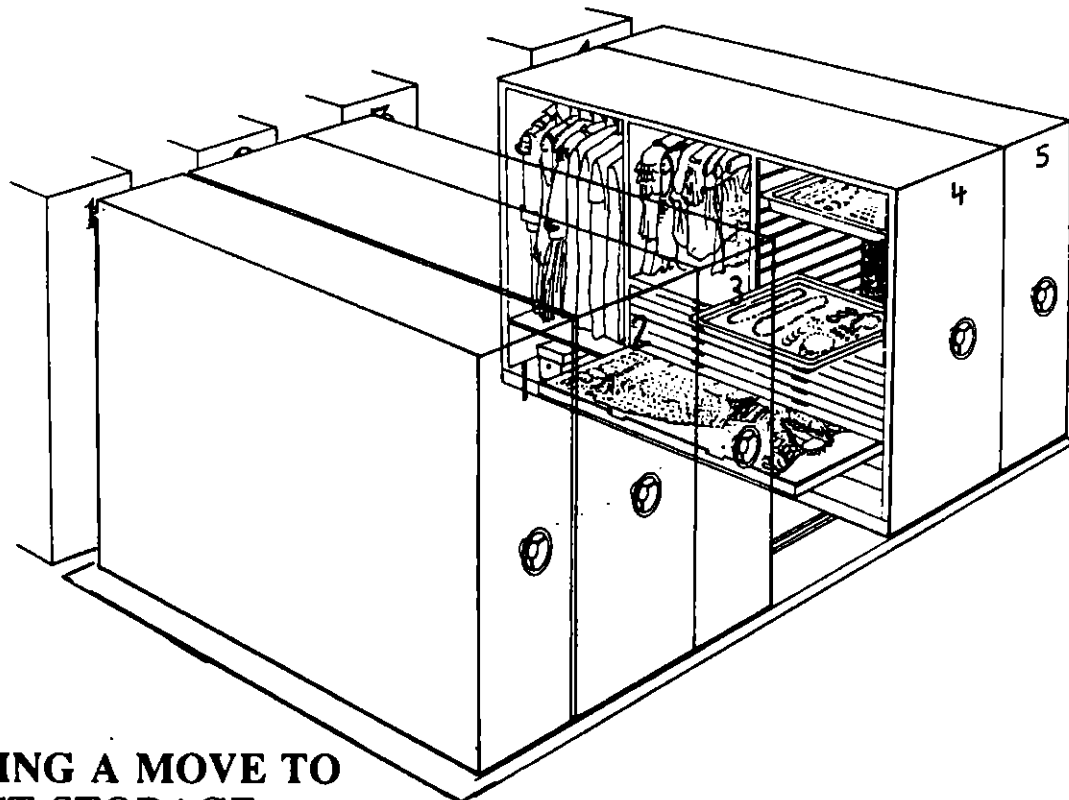
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## PLANNING A MOVE TO COMPACT STORAGE

As this newsletter is being published, the McCord Museum of Canadian History in Montreal is re-opening in expanded facilities, built to conform to the most modern technological standards. This state-of-the-art concept is evident in all areas of the museum, from exhibition galleries to staff work stations to the collection storage rooms. In February 1989, the Museum closed its doors, and the collections and staff were moved to temporary facilities for the period of demolition and reconstruction. The new museum incorporates the facade and side walls of the original building with a southward extension which results in a space more than double that of the original museum. This not only provides expanded exhibition space, but also enhanced storage facilities for all the collections, and for the first time, conservation laboratories for costume and textiles and for decorative arts.

I have been privileged to participate in the development of the storage facilities for the

Costume and Textile Collection. My first involvement was as a volunteer doing measurements and calculating the linear and volumetric capacity of the existing storage facilities. For the past ten months as Collection Coordinator, I have been responsible for planning the location and for moving the some 13,700 objects that make up the Costume and Textile collection. This article will briefly describe the various analyses and planning activities of the past five years.

The Costume Collection of the McCord Museum is particularly rich in 19th and early 20th Century female costume: dresses, hats, shoes and accessories. This collection was contained in facilities designed in the late 1960's when the Museum was re-opened to the public. These costume storage facilities were extremely well designed and incorporated the best techniques of storage in use at that time, but they were designed to house a much smaller collection. Since 1968,

the Costume collection has grown from some 4,000 objects, to the present 13,700. By the early 1980's, these storage facilities were rapidly becoming woefully inadequate, drawers were filled to more than capacity, and boxes and cartons of various shapes and sizes occupied every available horizontal surface. Crowded at about nine dresses to the linear foot, the hanging costume was crushed and in danger of being damaged when removed for examination or research.

As the initial planning for the expansion started in 1987, the first task was to complete a volumetric analysis of the collection in its existing storage facilities. This involved not only measuring and calculating the space occupied by the collection, but also analyzing the content of the collection to ensure that the requirements of its various components would be considered during the planning. For example, while much of the dress collection is stable enough to be stored on hangers, the bias-cut dresses of the 1930's, the heavily beaded dresses of the 1920's and certain fragile garments require flat storage. Among the many costume accessories there were some 650 pairs of shoes and boots and approximately 770 hats and bonnets to be considered, as well as 260 fans and 150 parasols, and an extensive collection of jewellery. The collection of quilts and coverlets (some 120) had recently been rolled on 8 foot long tubes; these too had to be accommodated in the new facilities. After investigation and consideration the decision was made to use stationary hanging units for the stable dresses, suits and coats, and drawer units in compact mobile storage for the rest of the collection.<sup>1</sup>

The mobile units consist of 49 drawer units, 3' x 5' (approximately 1.5 m x 2.4 m). Of the 571 drawers housed in these units, 360

are 8" (20 cm) deep, 78 are 6" (15 cm) deep and 133 are 4" (10 cm) deep. This was considered to offer the maximum possible flexibility. The mobile storage also includes a long fixture for rolled textiles and 7 shelf units, measuring 3' x 5' (1.5 m x 2.4 m). The contract for all these units was awarded to the Quebec-based company, Montel Inc., which specializes in museum storage systems. The contract specified the use of prime quality materials throughout, and the facilities of the Canadian Conservation Institute and the Centre de conservation du Quebec were used to ensure that all aspects of the fixtures including metal, paint, and plastic seals conformed to the highest standards of conservation.

As soon as the final blue prints of the storage rooms and the fixtures were received in May 1991, the detailed planning for the relocation of the collection was begun.<sup>2</sup> The curator established the criteria to be used as guide-lines in planning. The collection was to be arranged with primary consideration given as to how it is used, on the whole, like objects were to be grouped together and arranged in chronological order. For example, the shawl collection was to be organized so that shawls from the early decades of the 19th century were in three drawers and within this chronological group there would be a further grouping of shawls by fabric (lace, silk, wool etc.) and/or colour. In addition, consideration was to be given to the expansion of the collection during the next decades. Free space was to be planned within each area so that new acquisitions could be added in the correct chronological location without disturbing the rest of the collection. This meant locating only three packed boxes on a shelf, leaving the fourth box empty giving an expansion capability of 25%; or designating ten drawers for the 1860's dresses and putting

two dresses in each of these drawers allowing for expansion within instead of filling five drawers and leaving five empty for future acquisitions. It went without saying that all objects were to be stored using state of the art techniques and material to ensure optimum standards of conservation.

Essential to the planning process was the information provided by the McCord Collection Management System: the entire collection is entered in a computerized data base which details among other information the exact location of every object. Using a computer rather than a file card to locate an object had now become a familiar procedure for us. This management system provided a number of useful planning tools. One was a quantitative summary of the collection by object name - e.g. hats 590; purses 422, spectacles 74, etc. Another was the list by location of the contents of every box, drawer and hanging rack in the storage room. A third list also provided more complete information on the parts of the collection which had been fully catalogued.<sup>3</sup> The computer printouts were referred to at every stage of the planning cycle. The information they provided was vital, it enabled us to quickly analyse the content of the collection and consider various options so that decisions were made only after informed thought. Detailed planning of the relocation of the collection within such a limited time period would have been impossible without the assistance given by the McCord Collection Management System.

As the first planning exercise in 1987 was a volumetric analysis, the first exercise in planning the relocation was once again to calculate the volume of space occupied by the collection. This time it was done in more detail, by generic group, i.e. menswear, lingerie, accessories, etc. The capacity of

each box or drawer was calculated, and these volumes listed and totalled. To give a better estimation of the space required for proper storage, this total was doubled.<sup>4</sup> These calculations were summarized on a chart which listed the number of drawers available in the new storage (see Fig. #1). This chart provided us with our first working document, enabling the curator to consider possible options for storage. An easy part of the collection to plan was the footwear, which was catalogued in full detail on the data base. We used a computer printout listing the shoe collection in chronological sequence to plan the new drawer location for every pair of shoes without referring to any other document (Figs. 2 and 3).

Some decisions were very easy, a shallow drawer could accommodate the handkerchief collection, and allow its embroidery and lace to be seen to best advantage. Similarly, the ladies gloves and stockings could be attractively organized in three shallow drawers. Because of their varied nature, other accessories required a variety of solutions. Veils, scarves and the smaller shawls were rolled, individually covered with mylar<sup>R</sup> and assigned drawer space. The deeply fringed shawls of the 1920's were folded (the folds cushioned with microfoam) and assigned to deeper drawers. The larger shawls were rolled on 4" diameter tubes, given an outer covering of Cerex<sup>R</sup> and assigned to the rolled textiles fixture. Object groups were checked off our list as decisions were made as to their storage.

The 56 shelves in compact storage were intended in part for holding the objects of awkward shape and size such as men's leather hat boxes, and travelling cases, and Highland and ceremonial costume in their fitted trunks. A newly acquired collection of habits of over 50 Quebec religious orders

also required special consideration. The size of the shelves necessitated the purchase of custom-made Coroplast<sup>®</sup> boxes, which were designed to fit compactly four to a shelf. As we reviewed the collection, it became obvious that we should pack and store certain groups of objects that are seldom researched, such as McGill University memorabilia, military uniforms, academic robes and hoods and Expo 67 and Olympics 76 uniforms. These were quickly located and repacked in the new boxes. Each time a box was packed, a list detailing the accession numbers and object names of the contents was prepared, and the box and its list were identified with a number. These lists were sent for entry into the computer system so that packing lists could be prepared for the move.

The new fixture for rolled textiles accommodated not only our quilt and coverlet collection, but also our extensive collection of paisley shawls and our valuable collection of ceintures fléchées. The actual rolling of these objects was not completed until late November, but their location was determined by mid-June.

Some decisions were made only after a long consideration; should children's wear and/or domestic textiles such as table linen, bed linen and needlework artifacts, be stored in the Coroplast<sup>®</sup> boxes or in drawers? Ultimately we decided to store the domestic textiles in the Coroplast<sup>®</sup> boxes. In the process of repacking we were able to group and identify this collection in a way that will facilitate future use. For example, the size of the Coroplast<sup>®</sup> boxes (33" x 22" x 6"; 83 cm x 58 cm x 16 cm) made it possible to group our examples of beaded Victorian embroidery, quilting samples, sewing artefacts, etc., each in its own box. Domestic linens, ranging in size and weight

from handwoven sheets and blankets to delicate needle lace doilies were sorted into related groups, bed linen, table linen, towels etc. and packed. As a result of this exercise, a very diverse group of objects has become a series of small related collections, easy to locate for research.

As stated earlier, the McCord collection is very rich in 19th and 20th century dress, some 600 of which were stored in over-sized cardboard garment boxes, in a manner which no longer reflected the chronological order that had been originally intended. The 360 deepest drawers of the new storage had been reserved for this part of the collection, but the exact configuration of the layout had to be determined. The dresses were to be arranged first chronologically by decade, and then within this, were to be grouped by type, i.e. day; afternoon, evening and wedding. It was decided that the 60 boxes containing these dresses would be opened, sorted and repacked by decade in preparation for the move. This exhausting task, which took 2 people 10 days, was better done at our temporary location when there was space and time to spare. The box lists (which became our packing lists) prepared from this exercise gave us full information on the date and type of each dress. This information was summarized on a list that made it very easy to estimate the space requirements of each group of dresses (Fig. 4). A similar process, though not quite as detailed was done for the lingerie and children's wear collections.

Throughout this sorting and repacking procedure it was essential that the computer system be kept informed of the new locations of the artifacts as they were sorted and repacked. This required many hours of paperwork on my part, and it tested to the maximum the good nature of the computer systems manager. But it was absolutely

essential to maintain up-to-date records so that accurate packing lists would be available for the move (Fig. 5).

The final step in the planning process was to prepare a diagram of the fixture layout and indicate on it the proposed location of the various groups of objects (Fig. 6). This diagram was again reviewed in detail with the curator. Were the most frequently used objects easily accessible? Was there a logical sequence; for example purses next to shoes, with other accessories adjacent? Should samplers, lace and lace-trimmed handkerchiefs be in the same unit because of their related needle-work techniques? The curator's final approval marked the end of planning the relocation of the collection. What lay ahead was implementing this plan during the move.

Before any part of the collection was transported to the new museum, we had to consider how the configuration of the new storage room would affect the handling and the unpacking of the boxes. Since there is only one aisle open at a time in a compact storage area, only the objects identified for the drawers in this aisle could be handled at one time. No temporary holding areas for packed cartons were available in the new museum, so each shipment had to comprise a complete group of objects, but no more boxes than could easily be accommodated in the limited floor space in the storage room. Each shipment had to be completely unpacked and the objects located in their planned drawers before another shipment could be received.

As already noted, each box was identified with a number corresponding to its packing list. To facilitate quick identification in one temporary location where the various boxes had been stored at random according to

available space, we further keyed each box as to its contents. (Fig. 6) Thus a large red number "11" identified our 11 boxes of 1900-1910 dresses, and "26" our 11 boxes of menswear and "24" our 16 boxes of lingerie. This helped to speed up the selection of boxes for inclusion in a day's shipment, since complete groups of objects had to be shipped together.

We know that this process of analysis and planning has enabled us to become more aware of the variety and wide scope of our costume collection. Although it will take us a little while to get used to our new storage rooms, retrieval of objects for study will be much easier both on the object and on us! One thing is quite evident, the Costume Collection of the McCord Museum of Canadian History has never looked so beautiful, each object seems to have gained a new quality and richness; giving us all the more reason to be proud of our new museum.

Elizabeth Sifton  
Collection Coordinator  
Costume and Textiles  
McCord Museum of Canadian History  
Montreal, Quebec

COMPACT STORAGE DRAWERS

DRAWER SIZE		10cm	15cm	20cm
DRAWER CAPACITY (approx) (cubic cm)		138,300	207,4480	276,600
DRAWERS AVAILABLE		133	78	360
COLLECTION	PRES. VOLUME			
1 HANDKERCHIEFS	75,700	1		
2 STOCKINGS	75,700	1		
3 GLOVES	113,520	2		
4 MENSWEAR	1,149,700		10	
5 LINGERIE	1,706,500		16	CR 12
6 BEADED DRESSES	59	19 (3/DRAWER)		
7 BOXED DRESSES	550			
8 CEINTURE FLECHEE	359,300		WILL ROLL & HANG	
9 JEWELLRY		RESERVE 12 PENDING REVIEW		

Figure 1

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1. For further information on the research done into the compact storage system see "Recent Trends in Costume and Textile Storage" by J. Beaudoin-Ross and E. Burnham: Textile Conservation Newsletter supplement, Spring 1990.

2. The relocation of the 1,200 hanging dresses in the collection to stationary storage was fairly straightforward and is not discussed here, nor are the parasols and hats both of which were located in the stationary storage area.

3. Part of this information can be accessed through CHIN, the acronym for Canadian Heritage Information Network. This is a computer system which links major Canadian Museums. The exchange of information is possible through this network when a collection is catalogued according to a structured format.

4. It should be noted that the planning was completed with reference only to blue prints and architect's drawings. A prototype drawer was used to experiment with placement of objects and to check calculations, but our first view of the partially completed storage units was in November, when all planning was complete. Indeed, we were part way through our planning process when the architects reminded us that the drawer measurements on the blueprints were outside dimensions. This required revision of our calculations, but presented no other major problem.

## MATERIALS USED IN THE NEW STORAGE FACILITIES

We took advantage of the unavoidable necessity of handling every object in the collection to upgrade their storage method. The following is a partial list of the materials used.

1) Mylar<sup>R</sup> (Dupont) - a transparent polymer film used as the final protective layer on textiles (scarves, ribbons etc), which were to be stored in drawers. Transparent, Mylar<sup>R</sup> not only protects but allows for quick visual identification of objects. Available from Dupont distributors.

2) Reemay<sup>R</sup> or Cerex<sup>R</sup> - a spun-bonded polyester or nylon available in different thicknesses. Cheaper than unbleached cotton, this was used to line all drawers and to wrap the large rolled textiles for the mobile fixture. Available from HtC Industries, Montreal.

3) Microfoam - Polyethylene foam sheeting, also available in different thicknesses. We used 1/8 inch thickness to line the bottoms of all drawers. Narrow strips were cut and fastened around each shoe as protective "bumpers". Available from Dow Chemical distributors.

4) Tyvek<sup>R</sup> - non-woven neutral polyethylene coated paper. We have started the process of replacing the cardboard hang tags used on all objects with new Tyvek<sup>R</sup> labels. Available from Dupont distributors.

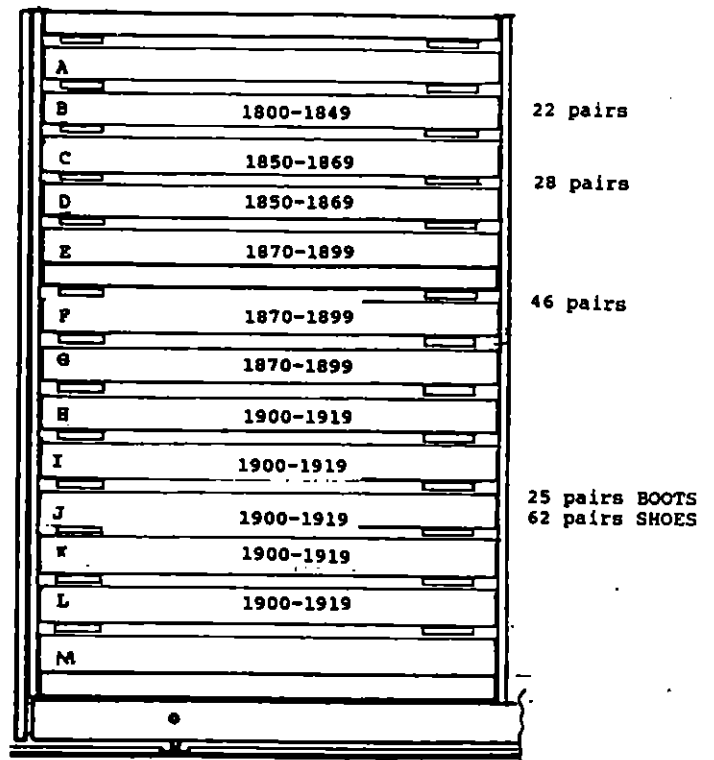
5) Coroplast<sup>R</sup> - corrugated polypropylene, lightweight and rigid, it was used for our custom-sized boxes. Cost proved to be much less than for acid-free cardboard. Available from Matra Plast, Berthierville, Québec.

PAGE	86			10:10:08	22 APR 1991
Key	OB	GDR	QTY	EPO2	
M974.44.2.1-2	Shoe	F	2	1850	C
M968.4.2.1-2	Shoe	F	2	1850	C ?
M967.27.4.1-2	Shoe	F	2	1855	C
M972.67.2.1-2	Shoe	F	2	1856	C
M962.3.2.1-2	Shoe	F	2	1860	C
M20976.1-2	Shoe	F	2	1860	C
M969.1.2.1-2	Shoe	F	2	1860	C
M969.15.5.1-2	Shoe	F	2	1860	C
M980.33.1.1-2	Shoe	F	2	1860	C
M18752.1-2	Shoe	F	2	1870	C
M20294.1-2	Shoe	F	2	1870	C
M972.63.8.1-2	Shoe	F	2	1870	C
M980.50.1.1-2	Shoe	F	2	1870	C
M967.27.5.1-2	Shoe	F	2	1874	C
M988.75.4.1-2	Shoe	F	2	1875	C
M20367.1-2	Shoe	F	2	1875	C
M968.11.1.1-2	Shoe	F	2	1875	C
M934.12.1-2	Shoe	F	2	1876	C
M968.5.10.1-2	Shoe	F	2	1880	C
M969.1.26.1-2	Shoe	F	2	1880	C
M985.40.7.1-2	Shoe	F	2	1880	C
M986.3.1.1-2	Shoe	F	2	1880	C
M976.101.2.1-2	Shoe	F	2	1882	C
M979.110.4.1-2	Shoe	F	2	1883	C
M966.92.7.1-2	Shoe	F	2	1884	C
M969.22.8.1-2	Shoe	F	2	1884	C
M971.147.1-2	Shoe	F	2	1885	C
M20311.1-2	Shoe	F	2	1885	C
M21472.1.1-2	Shoe	F	2	1885	C
M970.26.48.1-2	Shoe	F	2	1885	C
M974.129.4.1-2	Shoe	F	2	1887	C
M984.150.44.1-2	Shoe	F	2	1887	C
M984.150.62.1-2	Shoe	F	2	1887	C
M968.12.1.1-2	Shoe	F	2	1890	C
M20409.1-2	Shoe	F	2	1890	C
M965.87.25.1-2	Shoe	F	2	1890	C
M967.28.2.1-2	Shoe	F	2	1890	C
M969.25.2.1-2	Shoe	F	2	1890	C
M973.99.3.1-2	Shoe	F	2	1890	C
M968.14.1.1-2	Shoe	F	2	1890	C ?
M966.38.12.1-2	Shoe	F	2	1895	C
M969.25.7.1-2	Shoe	F	2	1895	C
M971.118.11.1-2	Shoe	F	2	1895	C
M972.16.1.1-2	Shoe	F	2	1895	C
M988.35.2.1-2	Shoe	F	2	1900	C
M20407.1-2	Shoe	F	2	1900	C
M20417.1-2	Shoe	F	2	1900	C
M21852.1-2	Shoe	F	2	1900	C
M968.14.6.1-2	Shoe	F	2	1900	C
M968.7.44.1-2	Shoe	F	2	1900	C
M968.7.45.1-2	Shoe	F	2	1900	C
M970.7.5.1-2	Shoe	F	2	1900	C
M973.1.63.1-2	Shoe	F	2	1900	C
M979.115.6.1-2	Shoe	F	2	1900	C
M983.9.2.1-2	Shoe	F	2	1901	C
M977.106.4.1-2	Shoe	F	2	1902	C
M979.50.3.1-2	Shoe	F	2	1903	C
M982.44.1.1-2	Shoe	F	2	1904	C
M982.103.3.1-2	Shoe	F	2	1905	C
M20509.1-2	Shoe	F	2	1905	C
M21458.1-2	Shoe	F	2	1905	C
M21459.1-2	Shoe	F	2	1905	C
M21461.1-2	Shoe	F	2	1905	C
M21464.1-2	Shoe	F	2	1905	C
M21467.1-2	Shoe	F	2	1905	C
M21471	Shoe	F	2	1905	C
M21478.1-2	Shoe	F	2	1905	C
M21482.1-2	Shoe	F	2	1905	C
M21484.1-2	Shoe	F	2	1905	C
M21485.1-2	Shoe	F	2	1905	C
M21487.1-2	Shoe	F	2	1905	C
M21726.1-2	Shoe	F	2	1905	C
M21889.1-2	Shoe	F	2	1905	C
M21890.1-2	Shoe	F	2	1905	C
M965.136.81.1-2	Shoe	F	2	1905	C
M968.14.5.1-2	Shoe	F	2	1905	C
M968.22.1.1-2	Shoe	F	2	1905	C

Figure 2

UNIT 9

WOMENS BOOTS AND SHOES



25 pairs SHOES = 1 DRAWER  
15 pairs BOOTS = 1 DRAWER

Figure 3

LISTE D'EMBALLAGE - PACKING LIST

REPORT DATE  
DATE DU RAPPORT: 03 FEB 1992  
PAGE: 1

DA: COSTUME

CONTENTS OF BOX #  
CONTENU DE LA BOITE: CD12268

DATE DE DEMENAGEMENT / MOVING DATE (LU2):  
DATE D'EMBALLAGE / PACKING DATE: 19911016

AN	OBJ	QTY	COMP	PREVIOUS LOCATION					DATE	BOX(ES) NUMBER(S)	NEW LOCATION					DATE
				RM	U	S	I	BO			RM	U	S	I	BO	
R22156	Dress	1		309	83	2			19911016	CD12268						
R22230	Dress	1		309	83	2			19911016	CD12268						
W965.136.79	Dress	1		309	83	3			19911016	CD12268						
W965.150.3	Dress	1		309	83	3			19911016	CD12268						
W965.150.34	Dress	1		309	83	2			19911016	CD12268						
W965.162	Dress	1		309	83	2			19911016	CD12268						
W966.159.11	Dress	1		309	83	2			19911016	CD12268						
W966.59.25	Dress	1		309	83	2			19911016	CD12268						
W966.96.1	Dress	1		309	83	3			19911016	CD12268						
W966.96.2	Dress	1		309	83	3			19911016	CD12268						
W970.26.15.1-2	Dress	1	2	309	83	3			19911016	CD12268						
W970.26.16	Dress	1		309	83	3			19911016	CD12268						
W973.133.2	Dress	1		309	83	3			19911016	CD12268						
W973.23.1	Dress	1		309	83	2			19911016	CD12268						
W973.94.3	Dress	1		309	83	2			19911016	CD12268						
W977.124.1-2	Dress	1	2	309	83	6			19911016	CD12268						
W981.1.2	Dress	1		309	83	2			19911016	CD12268						

TOTAL QTY 37                      TOTAL COMP 19

Figure 4

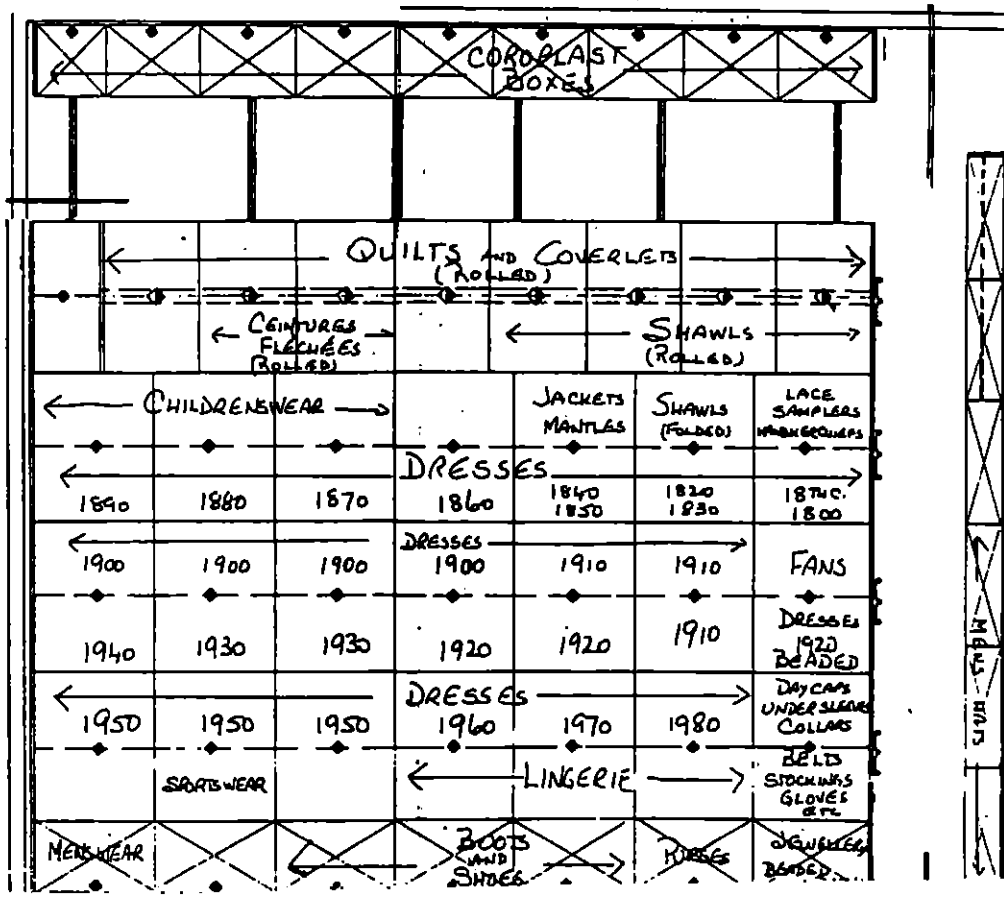
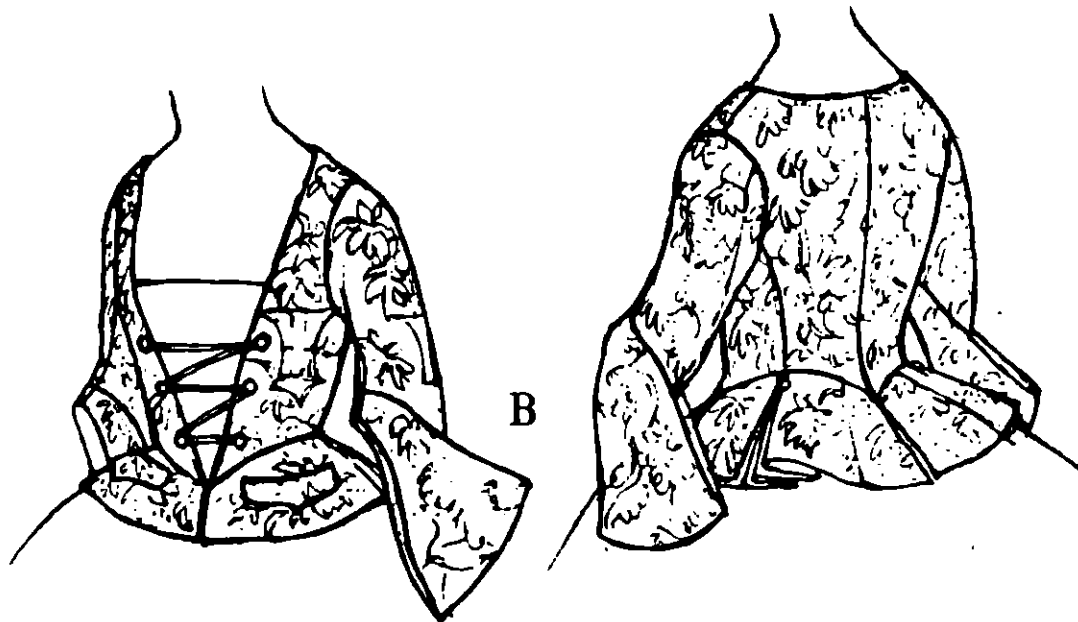


Figure 5





*J. Arnold, Patterns of Fashion: Englishwomen's Dresses and their Construction Techniques c. 1660-1860 (London, 1964), p.26*

## **C**OSTUME DEVELOPMENTS AT LOUISBOURG HISTORIC PARK

The Fortress of Louisbourg National Historic Park is a partially reconstructed eighteenth-century French fortified town on the south-east coast of Cape Breton, Nova Scotia. Like many other living history sites in North America, the Fortress has an active animation programme. Each summer, staff dressed in Parks Service uniforms or reproduction period costumes interpret the site to the year 1744.

The costume programme at the Fortress began in the early 1970's and has grown steadily over the past 20 years in numbers as

well as complexity. During the last visitor season, approximately 134 paid staff and 160 volunteers were dressed in period costume.

On any given day during the height of the visitor season, there are about 100 costumed individuals on the site. A cross-section of society is presented which includes soldiers, fishermen, merchants, tradesmen, servants and the elite of Louisbourg. We also have an active children's program and several special events each year.

Aside from the production and maintenance of the stock of costumes, the Costume Department at the Fortress has recently been concentrating on gathering more information about the cut of eighteenth-century garments. While Louisbourg has some wonderful primary source written documentation relating specifically to the site, few clothing related archaeological specimens came to light as the site was excavated. The Interpretation Branch in Ottawa has however recently started to actively collect eighteenth-century garments and some of our recent work has been collaborative with the curators in Ottawa.

Recently, we developed two new patterns for the site. One of these was for a woman's bodice or jacket. The characteristic French style of mid-eighteenth century formal dress for women was the sack gown. This was usually an open robe worn over a decorative petticoat and a stomacher, with a box pleated panel of fabric falling from the back of the shoulders to the ground. A more informal style of dress, a separate hip length jacket and petticoat, was also worn. In order to introduce more variety in the style of dress worn by women at the Fortress, we decided to reproduce a jacket and petticoat combination.

Since the Parks Service did not have any original jackets in its collection upon which to base a reproduction, we turned to Janet Arnold's well known Patterns of Fashion which included two jackets of an appropriate style and date.<sup>1</sup> Arnold's detailed patterns are painstakingly based on original garments; in the absence of firsthand information they provide a reliable source of documentation.

The first pattern, for a colourful, brocaded jacket from Snowhill Manor, dated c. 1735-40,<sup>2</sup> was enlarged to full scale.

The resulting muslin was found to be both small and illproportioned, making it difficult to fit on a modern interpreter. This illustrates one of the difficulties in reproducing garments by using patterns taken from original garments. Since we have a large and varied staff at Louisbourg, we are attempting to determine not only eighteenth-century cut, but to develop and grade patterns to fit a variety of standard sizes. Original garments, especially early ones prior to mass manufacture and standardized sizing, were custom-made for specific individuals, making it difficult to translate them into modern standard sizes. As well, as with any type of material culture, our research depends on the objects that have survived in museum collections.

At this point, we decided to try enlarging the second jacket from Arnold's book. Also from the Snowhill Manor collection, this garment was dated c. 1730-50.<sup>3</sup> Again, a muslin was made up and tried on a variety of women. The jacket, in its original form, was well proportioned and we determined that it was approximately a modern size 4-6. The pattern was then upgraded to a size 12 and another muslin sample was made. The women who tried on this muslin consistently found that the front armhole was too tight. The armhole was enlarged as little as possible, but sufficiently to ensure a comfortable fit while still retaining the correct shape of the armhole and sleeve cap. The long sleeve was shortened to elbow length and a cuff was added in accordance with a popular style of the period. The centre front was modified to accommodate a stomacher and a peplum was added, based on details of other original garments.

Of course, the next stage of this project involved making a complete jacket, which was worn by an animator on site for the summer. Finally, the finished product was evaluated, including its durability and comfort.

The next phase of the project will concentrate on researching and then incorporating period construction techniques into the production of these jackets. This information will be drawn from written sources such as Garsault's L'Art du tailleur<sup>4</sup> and where possible, from original garments. Naturally enough, during the construction of the sample garment, many questions arose in relation to appropriate stitching techniques, seam finishes, interfacings, interlinings and linings that will hopefully be answered through further research.

The need for collaboration between curators and conservators was never more apparent to me than during the course of this project. Having worked as a textile conservator, I have found that one of the important similarities between conservation and the type of curatorial work I do at Louisbourg is the need for the careful examination of original garments. Condition reporting, before treating garments or textiles, reveals information about construction methods such as fiber content, weave structure, decorative techniques, colour changes and alterations, which are important not only from a conservation perspective, but valuable from a curatorial perspective as well, especially when reproducing period costumes. Similarly, curatorial knowledge and research of construction techniques, gained not only from artifacts but from other documentary sources not usually consulted by conservators, can augment the knowledge of conservators in their treatment of garments.

Elizabeth Tait  
Curator of Textiles  
Fortress of Louisbourg  
National Historic Parks  
Louisbourg, Nova Scotia

#### Endnotes

1. J. Arnold, Patterns of Fashion: Englishwomen's Dresses and their Construction Techniques c. 1660-1860 (London, 1964).
2. Ibid., p. 26
3. Ibid., p. 24
4. F.A. de Garsault, L'Art Du Tailleur (Paris, 1769)

#### References

1. Arnold, J. Patterns of Fashion: Englishwomen's Dresses and Their Construction Techniques c. 1660-1860. London: Wace & Co. Ltd., 1964
2. Garsault, F.A. de. L'Art du Tailleur. Paris: Academie Royale des Sciences, Description des Arts et Metiers, 1769.

## **I**NTERNSHIP AT NATIONAL MUSEUM OF AMERICAN HISTORY

For six weeks in the summer of 1991 I joined the National Museum of American History Conservation Department as an intern on the First Ladies project, working under Polly Willman. The internship was part of my graduate program at the University of Rhode Island. (The First Ladies project was the subject of an article in the Spring 1991 issue of TCN.) When I began last summer much of the work was in its final stages with only eight months until the exhibition opening. By this point extensive research had been done on the effects of the long exhibition history of many of the objects, and most treatments had been completed. Treatment of a few more objects slated for the opening exhibition remained.

Working with a fellow U.R.I. intern, Kathryn Tarleton, I wrote condition reports and took photographs of sixteen costume accessories which had not been part of the previous exhibition. Of these, two handkerchiefs were wet-cleaned and blocked, and later mounted on white stabiltex to facilitate their display. In this manner the sheer stabiltex could be laid over the fabric selected to line the cases, thus highlighting the handkerchief lace, but avoiding risk of dye transfer from the coloured fabric. Two pairs of lace cuffs were also wet-cleaned and blocked.

A reference set of dyeings was made for a group of premetallized acid dyes, to be used as a tool for colour matching. Colour matching was done for three different areas of a dress having belonged to Martha Washington. Light fading had occurred on

much of the dress, but some areas had had less light exposure, which meant that several different shades of thread and backing fabric were needed. Larger pieces of silk taffeta and silk filament were dyed to match. Colour matching was also done for a dress worn by Edith Roosevelt. Thread was then dyed for a stitching treatment, and a piece of silk satin was dyed for use in a reproduction bodice. The abraded hem edge of the Edith Roosevelt dress needed repair. The silk damask was woven with metallic threads, and many of these were broken and protruding. The hem stitching was found not to be original, and thus unpicked. The hem was then opened, and the entire lower edge of each skirt gore backed with stabiltex. The loose threads of the abraded edge were realigned and stabilized by stitching them to the backing. The hem was then refolded and restitched through the two layers of stabiltex.

Other less extensive projects were also carried out. Ethafoam disk forms were made for two bodices. Dye analysis was performed on two garments. Aside from these projects we also took part in regular lab activity, such as writing treatment proposals and reports. Several lectures were attended, including a trip to Winterthur where Polly Willman was giving a one-day seminar on storage and display.

The variety of projects undertaken was most conducive to obtaining a well-rounded internship experience. I was pleased to be involved with the project and look forward to seeing the new exhibiton, which opens March 28, 1992.

Cynthia Cooper  
Marsil Museum  
St. Lambert, Québec

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## **C**ONFERENCES, MEETINGS & SYMPOSIA

### **CSA**

Costume Society of America  
Annual Symposium  
Theme: "Exploring our Cultural Diversity."  
San Antonio, Texas  
May 27-30, 1992

For more information contact:  
Deborah Barlow  
521 East Middlesex

### **AMERICAN CHEMICAL SOCIETY SYMPOSIUM**

#### **POLYMERS IN MUSEUMS**

August 23-28, 1992

Symposium '91, Saving the 20th Century, which we recently attended, pointed out a few real needs in the area of conservation. One of these needs was for conservators and scientists to be able to get together to share information about the materials we find in modern collections. A question that was frequently asked was how to identify modern materials, especially plastics and synthetic paint media. Many talks dealt with degradation, storage and treatment considerations of these materials. People expressed an interest in working with modern materials scientists on some of these problems, but did not know how to find scientists who were interested in these problems.

For these reasons, the Conservation Analytical Laboratory, along with the Division of Polymer Chemistry of the American Chemical Society, is sponsoring a symposium called "Polymers in Museums".

It is designed to be a forum for conservators and conservation scientists to discuss the problems their work with polymer chemists from academia and industry. The members of Polymer Chemistry division have expressed great interest in attending this symposium, as they rarely get a chance to hear from our side of the world.

For more information please contact:  
Mary T. Baker  
Symposium Chair

Conservation Analytical Laboratory  
Smithsonian Institution, Washington, DC  
20560  
Tel: 301-238-3714

### **TEXTILE SOCIETY OF AMERICA 1992 SYMPOSIUM**

#### **TEXTILES IN DAILY LIFE**

September 24-27, 1992

Seattle, WA

Beverly Gordon and Suzanne Baizerman,  
Program Coordinators  
2236 Commonwealth Ave.  
St. Paul, Minnesota 55108  
Tel: (608) 262-2015

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**DISASTER PREVENTION, RESPONSE,  
AND RECOVERY:****Principles & Procedures for Protecting &  
Preserving Historic/Cultural Properties  
and Collections****October 24-25, 1992****Cambridge, Massachusetts**

An intensive two-day conference sponsored by Technology & Conservation Magazine and The MIT Museum for: conservators; preservation librarians; archivists; records/documents managers; conservation scientists; preservation/restoration architects; engineers; government cultural/historic resource managers; private collectors; museum, historical society, and art gallery directors, curators, registrars, and collection managers; others responsible for artistic, cultural, and/or historic properties.

The symposium will provide a broad overview of the fundamentals of safeguarding our patrimony from floods, fires, earthquakes, hurricanes, and other natural and human-induced emergencies and hazards, and will then relate these to practical scientific/engineering techniques, design methods, and management approaches to minimize possible damage from disaster situations. Recent research in hazards prediction, object/building response to a disaster, and mitigation of loss through new protective materials and more effective safety systems will be covered, as will advances in treatment techniques for objects/structures subjected to deleterious environmental conditions. (Registrants are NOT required to have a technical background). In several case history presentations, preventive and recovery measures that will help ensure the continued existence of painting and other works of art, books and manuscripts, photographs and other archival collections, textiles, ethnographic materials /archaeological

artifacts, furniture and other decorative art objects, historic buildings and structures, sculpture and monuments, and similar works will be examined, with possible pitfalls discussed. Attention also will be given to formulating a suitable disaster action strategy, insurance and appraisal considerations, and resources available for assistance when disasters occur. In addition, up-to-date information on commercially available products will be supplied. There will be ample opportunity for discussions of specific problems, and registrants are encouraged to submit questions prior to the meeting so that speakers can concentrate more strongly on attendees' areas of particular interest.

**HARPERS FERRY REGIONAL  
TEXTILE GROUP****11th Symposium****Theme: "Silk"****Smithsonian Institution, Washington, D.C.****November 12-13, 1992****for more information contact:****Katharine Dirks (202) 357-1889**

## RECENT PUBLICATIONS

### A Textile Conservator's Select Bibliography of Adhesives and Consolidants

A bibliography on adhesives and consolidants was collected over several years in the Textile Laboratory at the Canadian Conservation Institute, Department of Communications in Ottawa. Last year Dr. Agnes Timar-Balazsy, scientist, National Centre of Museums, Hungary and ICOM Co-ordinator of the Textile Working Group sent us her references on adhesives. These two lists are combined here, covering publications up to 1990.

The references were chosen because they were considered to be the most relevant and informative regarding the use of adhesives and consolidants in textile conservation. Special thanks go to Janet Wagner, CCI Fellow, for her assistance.

Additional related publications are available. Our bibliography continuously changes and grows. We would be grateful to receive references and suggestions for this list.

This bibliography is available by request from:

Richard Bédard  
Extension Services  
Canadian Conservation Institute  
1030 Innes Rd.  
Ottawa, Ontario  
K1A 0C8  
Canada

Michaela Keyserlingk,  
Textile Conservator  
Canadian Conservation Institute CCI

Now Available Free

### PERSPECTIVES ON NATURAL DISASTER MITIGATION

*Perspectives on Natural Disaster Mitigation*, a compilation of the papers presented at The Natural Disaster Mitigation Workshop, held in conjunction with the 1991 annual meeting of the American Institute for Conservation of Historic and Artistic Works (AIC), is now available free.

The publication includes papers by experts in the field of disaster preparedness, professional conservators, and museum directors, and features topics ranging from natural hazards, urban emergencies, safeguarding collections and structures, and human reaction to disaster.

Staff at museums, libraries, and other cultural institutions can benefit from this informative publication, which discusses development of disaster mitigation plans, preventative measures and recovery strategies.

Supported by an IMS grant, the publication is **free** to museums and museum professionals. A shipping and handling fee of \$7 per copy, must be submitted with your request.

Order from: The American Institute for Conservation of Historic and Artistic Works, 1400 Sixteenth Street, N.W., Suite 340, Washington, D.C. 20046; (202) 232-6636. Quantities are limited and orders will be filled on a first-come, first-served basis.

# EXHIBITIONS

## Canada

"Form and Fashion" 19th Century  
Montreal Dress  
McCord Museum of Canadian History Re-  
opening of museum and the new  
costume gallery  
Montreal, Quebec  
from May 9, 1992

"A Fashion Retrospect, 1880-1970" featuring  
garments from the collection and fashion  
footwear from the Bata Shoe  
Museum. Oshawa Sydenham Museum  
Oshawa, Ontario  
until May 30, 1992

"Bienvenue: Textiles du Quebec"  
Museum for Textiles  
Toronto, Ontario  
until May 30, 1992

"Sampler Shoe Gallery"  
Bata Shoe Museum, (temporary gallery)  
The Colonnade  
131 Bloor St. West 2nd floor  
Toronto, Ontario  
from May 1, 1992

## United States

"In the Language of Stitches"  
Folk Embroideries of India and Pakistan.  
Textile Museum  
Washington, DC  
until July 27, 1992

Textiles from Egypt, Syria and Spain  
7th to 15th century and gold textiles,  
ornaments printed cottons.  
until November, 1992

Salvatore Ferragamo:  
The Art of the Shoe  
Los Angeles County Museum  
Los Angeles, California  
until June 7, 1992



Dinner Dress, about 1890-1891 as  
seen in FORM AND FASHION at the  
McCord Museum of Canadian History  
Montreal, Quebec



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Ruth K. Mills

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