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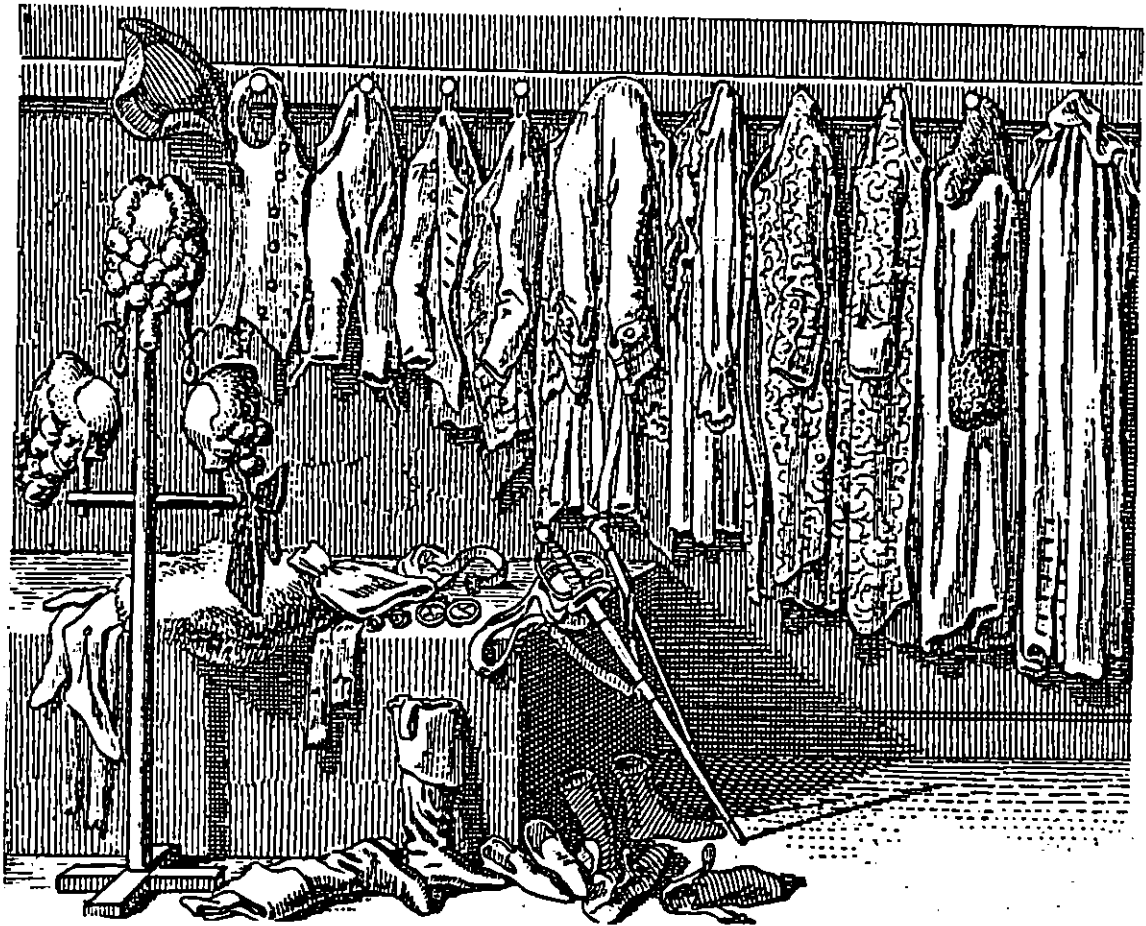
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TEXTILE  
CONSERVATION  
NEWSLETTER

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RECENT TRENDS IN COSTUME AND TEXTILE STORAGE



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McCord Museum of Canadian History

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Supplementary to the TCN, Spring 1990

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The authors would like to thank their colleagues in North America and Europe who have been so generous in sharing their knowledge and experience.

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### Introduction

The initiation in 1987 of a major expansion and renovation project for the McCord Museum of Canadian History in Montreal, Quebec, created a unique opportunity to evaluate the systems for costume and textile storage available to museums at that time.

The costume collection of the McCord Museum is second in Canada, both in size and importance, only to that of Toronto's Royal Ontario Museum. The McCord collects only Canadian costume, and is, therefore, the largest collection of its kind. The collection focuses mainly on Montreal bourgeois attire, and thus mostly reflects high fashion. The earliest costume dates from 1763. Acquisition is ongoing, and includes some selected examples of contemporary dress. The collection is regarded as being one of high quality.

### Storing the Costume and Textile Collection

Collection storage involves more than a physical facility for a museum – it reflects the museum's programs and its role in the community and in the institutional world.

Most storage problems in museums can be traced directly to lack of funding and/or space. Storage areas have always received little attention because they are generally not visible to the visitor and not considered important in comparison with exhibitions and other high-profile areas of the museum. In the past, collections were often inadequately stored due to lack of space and information on storage methods, and a shortage of safe materials and supplies.

The first step in considering types of possible storage for costume and textiles is to assess how often the garments and articles will be referred to for exhibition, loan, or study. Some university collections oriented directly toward a specific course in a curriculum are used by students for further study or for

hands-on experience. Usage here is usually considered to be high. In contrast, museum collections where access is limited due to severe personnel constraints or where requests for loan, study, or in-house exhibitions are not numerous are considered to be of low usage.

The well-known costume and textile collection of the McCord Museum is rated as having heavy to medium usage because it is often utilized for exhibition, loan, or study, yet access is somewhat limited due to museological conservation concerns.

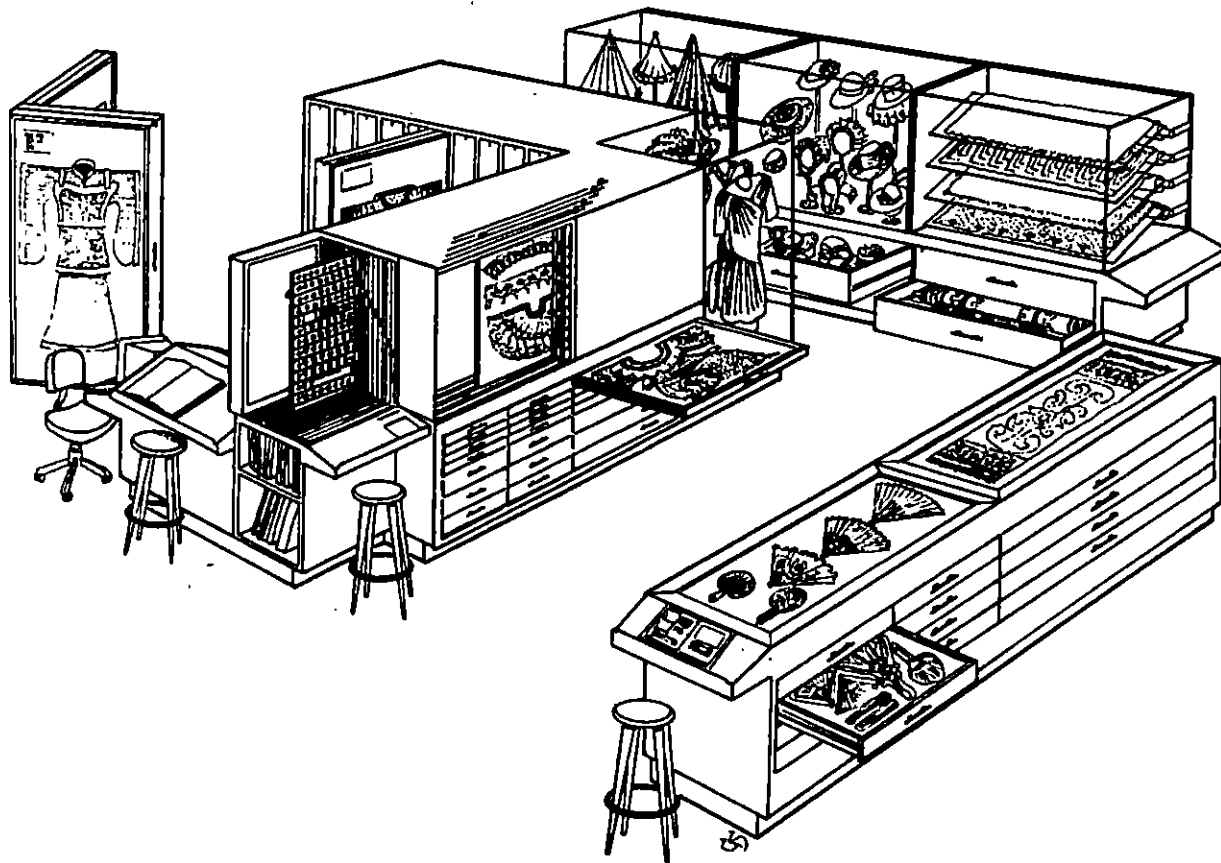
The protection of fragile artifacts is another important storage consideration. This, of course, dictates how and where a fragile garment is stored, and also requires as close a monitoring of environmental controls as possible.

### Visible storage

Visible storage means exactly what it implies -- garments and textiles are stored in a visible manner. They can be mounted in shallow glass cases, or placed in either glassed-in drawers or in vertical glass cases that can be slid open and, when closed, create a flat wall. The disadvantages of such glassed-in storage are limitations on closer study of the objects, and the risk of extended exposure of costumes and textiles to light. In addition, the storage of mounted garments raises the concern for rotation to alleviate possible strain on the textile, a consideration whenever textiles are not stored flat.

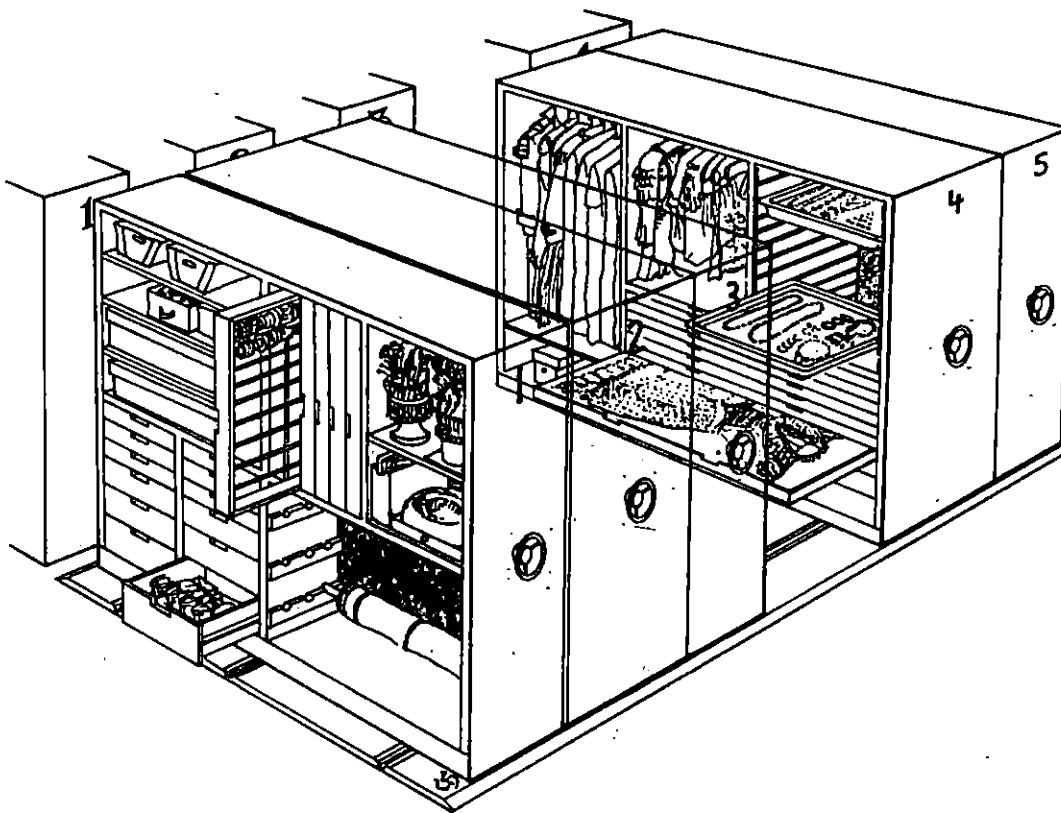
This type of costume and textile storage can be seen in Canada at the Museum of Anthropology in Vancouver, British Columbia, the Dugald Costume Museum in Dugald, Manitoba, and the Glenbow Museum in Calgary, Alberta. In Europe, visible storage of garments and textiles is found at the Abegg Stiftung in Riggisberg, Switzerland, the Poldi-Pezzoli Museum in Milan, Italy, and the Musée national des Arts et Traditions populaires in Paris, France.

At the Abegg Stiftung, the visible storage consists of a wall of drawers that separates the study room from the conservation workshop. The wall is three-metres deep, and offers the viewing of oversized textiles, such as ecclesiastical vestments, from both rooms. The exhibition hall accommodates large exhibits showing oversized panels or lengths of fabric up to five-metres long. The samples are mounted on pre-washed, stretched fabric covering wooden panels that run on tracks in the ceiling. Up to 24 panels can be shown at a time. When not in use, the panels are stored inside a background wall. In addition to its visible storage area in the public galleries, Vancouver's Museum of Anthropology provides computer printouts of all catalogue records for visitors. Similarly, the Musée national des Arts et Traditions populaires in Paris has large areas of glassed-in walls with hundreds of artifacts on display in its public galleries. It, too, offers computer access to its catalogue records.



### Compact mobile storage

Compact mobile storage systems consist of holding shelves, drawers, or racks housed in a series of units set on carriages equipped with wheels that run on tracks. The mobile units can be moved together or apart quickly to create one or more aisles for easy access to a specific stored item. The movement of the storage units can be controlled either manually or electronically. When first introduced, this type of storage system moved directly on the floor without tracks. All recent installations, however, run on tracks for greater control and safety.



When compacted together without aisles, these mobile units ideally yield almost twice the storage space of fixed-in-place storage units with permanent aisles for access between them. While still relatively expensive at onset, it must be emphasized that a collection of costume can be housed in compact storage in less than half the space required in a conventional storage arrangement. Therefore, the major advantage of compact storage is obviously its positive budgetary implication. The collection can also be better preserved since the efficient use of space in the mobile compact system alleviates crowding.

Museum curators and conservators have expressed some theoretical reservations about compact mobile storage. Dust is one consideration. Dust, which collects on top of the units, may be disturbed when the units are shifted, and may filter inside the units and onto the stored artifacts. However, dust can be prevented from seeping into the units by a regular cleaning program, a dust seal at the top and ends of the units, and an efficient air filtration system in the storage area where the units are installed. In addition, open hanging storage can be protected by mini-blinds or curtains. Flat textiles in drawers can be covered with washed cotton fabric or Reemay, a spun-bonded polyester. Similarly, items stored on a roll can be wrapped in unbleached cotton held in place with cotton ties.

Another concern is the risk of fire in compact closed storage units, since the lack of aisles hinders detection of and access to any fires that might break out. This risk can be minimized by installing fire detection and alarm systems in the storage area, and by using hydraulically operated compact mobile storage units to eliminate the danger of short circuits possible with electrical systems.

Reduced air circulation in and around compact closed storage units might make it more difficult to maintain a uniform temperature (ideally for textiles, 22°C in summer and 20°C in winter), and most importantly, a uniform relative humidity (50% RH for textiles) within the units. To alleviate this problem, buildings with areas for compact mobile storage units should have extensive wall insulation to minimize the effects of any fluctuations in outdoor temperature on indoor relative humidity.



Finally, insect control may be more difficult in compact mobile storage units because the holding spaces become very dark when the units are compacted. Any insect infestation may not be as easy to detect as in conventional storage, but insects can be hard to control even in crowded traditional storage arrangements. Enclosed cabinets in compact mobile storage systems can be equipped with tight gasket seams and door seals to inhibit the entry of insects and to reduce the risk of spreading infestation.

Nineteen institutions and individuals -- seventeen in North America and two in Europe -- known to have experience with compact storage were contacted throughout 1987 and 1988 regarding problems associated with the use of compact storage units. None mentioned difficulties with dust, risk of fire, humidity, or insect infestation. Several, however, raised the problem of the effects of vibration on textile artifacts that occurred with the movement of the units. These vibrational forces could theoretically cause damage and deterioration in some objects. Yet the material substance of costumes and textiles is sufficiently flexible, with few exceptions, to remain unaffected by vibrational forces.

To date, there is no documented damage to costumes or textiles arising from vibration. However, unwieldy artifacts, such as high-heeled shoes, can topple with the movement of units, while hanging articles, such as costumes suspended on hangers, can swing. The risk of damage incurred in such cases can be eliminated by storing any such costumes and textiles in a stationary area, or flat on horizontal surfaces. Artifacts sliding slightly in drawers or on shelves in compact storage when the units are moved can also be a potential problem. This can largely be overcome by lining horizontal surfaces with microfoam. As in stationary storage, large flat textiles are best rolled on prepared cardboard rolls and placed horizontally in an adjustable roll storage rather than kept flat in drawers. When stored this way in a compact storage facility, there is no movement.

New compact storage systems on the market are equipped with anti-vibration features, such as vibration-absorbing bumpers on units and drawers to minimize the hazards of vibration. Users of compact mobile storage have noticed that there is less creasing in costumes and textiles if stored in the above manner.

In spite of such modifications, many curators remain convinced that compact mobile storage is unsuitable for costumes and textiles because of vibration. However, if the aforementioned procedures are followed, compact mobile storage can be an efficient and safe manner by which to store costumes and textiles.

#### Literature and overview of collection storage survey

Our study of storage systems for costumes and textiles covered a literature review of the subject as well as visits to several collections.

Compact storage has been used by Canadian museums for almost 20 years (Ward, 1975), and has gained in popularity over the last eight years (Angrignon, 1987). Early evaluations of the compact storage system were mostly negative (Ward, 1975; Smithsonian, 1980) because the units first used in museums were originally designed for the storage of books in libraries and documents in archives and not for the storage of fragile, often oddly shaped museum artifacts. Systems of the early 1970s were constructed of light materials, and therefore tended to move and vibrate much more than later models did. An open assessment in an early publication can be found in Johnson and Horgan's Museum Collection Storage (1979), where the authors specifically discuss the compact storage of costumes. The most recent analysis known to us on the subject is Michalski's Compactor Storage for Museums (1981). Michalski's assessment is more positive and is particularly encouraging for the use of this type of storage for textiles.

In the 1960s, the Malmö Museum in Sweden installed one of the first textile storage system that we know of. It has large units that run on tracks but that have to be moved manually.

In the early 1970s, one of the first costume collections to use compact storage in North America was the Chicago Historical Society (Jachimowitz, 1977). Their system was electrically operated, and caused considerable vibration to their hanging storage. Recently, the system was severely damaged by water. There are plans to replace it with a new improved compact system, again electrically operated, with a

back up "Powerpack" system in case of power failure.

The design and construction of high-density compact storage has changed significantly since these first systems were installed. (Hill, 1988). Better communication of ideas between industry and the museum profession have added important technological input to solving problems associated with the storage of museum artifacts.

We assessed the recent changes in compact mobile storage systems and how safely and efficiently costume collections can be stored in such systems through our on-site visits to the Robert-Lionel Seguin Collection at the Université de Québec, Trois Rivières, Quebec; the Musée d'art de Joliette, Joliette, Quebec; the Royal Ontario Museum, Toronto, Ontario; the Department of Clothing and Textiles, University of Alberta, Edmonton, Alberta; the British Columbia Provincial Museum, Victoria, B.C.; the Los Angeles County Museum, Los Angeles, California; and the Abegg Stiftung, Switzerland.

#### Costume and textile storage at the McCord Museum

The new storage area at the McCord Museum of Canadian History was meticulously planned. When first planning its expansion in 1987, a volumetric study of the museum's crowded storage spaces was undertaken. The number of future acquisitions was assessed over the coming five-year period, based on a prior pattern of acquisition between 1971 and 1987. As well, the potential space required to store these future acquisitions was calculated. Actual ground space available for the McCord's physical expansion in heavily developed downtown Montreal and the needs of the other six collections at the McCord were considered in conjunction with budgetary realities. In the summer of 1989, it was decided that the space for the Costume and Textile Storage Area would be doubled in the new building.

For its new facility, the McCord selected the mechanically controlled compact mobile storage Mobile-Q-Matic, by Drummex, to house the majority of the holdings in its Costume and Textile Collection. This new storage system has flexibility and easy adjustability of shelves. The units are made of steel with

reinforced steel frames and shock absorbers at the front of the units for gradual deceleration to avoid carriage contact vibration. The units run on steel tracks that are built level with the concrete floor. The cast-iron wheels have a diameter of 120 mm, and run on ball bearings. The units have a capacity of 450 kg per linear foot.

All drawers run on nylon wheels to avoid noise, friction, and the problem of metal abrading against metal. The handles are set into the drawers to make them flush with the front of the cabinet. The dust seals around the units are made of a museum-approved silicone gasket material that does not emit sulphur. If required, the drawers can be divided length-wise and cross-wise. All drawer units are bolted to the back of the main unit to avoid toppling over when fully extended (Fenn, 1990). Drawers are supplied with shock absorbers, and there are stoppers to prevent the drawers from being pulled out too far.

Stationary hanging storage for garments, such as coats and dresses in good condition, will also be used. However, fragile costumes or those with inherent structural problems, such as dresses cut on the bias or heavy beaded garments that may stretch out of shape on a hanger over a period of time, will continue to be stored flat in drawers in the mobile drawer units.

"Lay-out" tables on casters will facilitate selecting and moving of artifacts. These tables will be designed for easy manoeuvrability in the aisles between units.

With its selection of a combination of high-density mobile compact and stationery storage systems, the McCord Museum has made every effort to ensure that its storage space is maximized. The McCord was in the fortunate position of being able to expand its facilities, but the use of space remains one of the prime criteria that determine the efficiency of the museum operation. The McCord Museum is presently scheduled to re-open in the Spring of 1992.

**Reflections**

Our survey of recent trends in costume and textile storage systems indicates that visible storage and mobile compact storage are gaining popularity in North America and Europe. The principal saving in mobile compact storage is that of space, while easy access is the main attraction of visible storage.

If budgets permit, most museums now choose compact storage or a combination of compact and stationery storage for their costume and textile collections in order to maximize the use of space. Compact mobile storage appears to be the most common trend for collections of costumes and textiles in North America.

Our study made us realize just how important it is to know not only what storage systems are used in museums but also what systems are available on the market. Such knowledge is best gained by hands-on examination of these systems and in-depth discussions with colleagues.

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**Manufacturers of Compact Mobile Storage Units**

Acme Visible Records, Inc.  
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Crystallizations Systems, Inc.  
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Bohemia, NY 11716  
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(418) 248-0235

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