Chapter

14

Textile Conservation in Museums

Learning Objectives

After completing this section the learner will be able to –

- explain the importance of museums as a source of knowledge
- describe the concept of textile conservation and factors causing deterioration of textiles
- explain the knowledge and skills required for caring for museum textile collections.

Significance

In Part I of the Class XI HEFS textbook, under the chapter on Textile Traditions in India, you learnt that manufacture of exquisite textile products is as ancient as the Indian civilisation. Not only spinning and weaving, India was the first among ancient civilisations to discover colour, and perfect the art of dyeing and printing on textiles, especially on cotton. It is for this reason that for thousands of years Indian textiles remained special items of trade in almost all parts of the world. From around 15th century onwards, India was the greatest exporter of textiles ever known. Museums in major cities all over the world have a special section designated to Indian textiles, which were part of gifts to erstwhile rulers, trade items or exhibits of Industrial Exhibitions.

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"The institution of **'Museum'** which aims at housing objects of antiquity has a western origin. Indian culture has had no tradition of setting up museums of fragmented materials... Used images are immersed in holy water, reusable material is renovated and worn out objects are buried in soil or thrown in water to merge with the earth from which they are created." Ananda Coommaraswamy (1968)

The word 'Museum' is derived from the Greek School of Philosophy. It was the 'Temple of Muses' — a sacred place of learning and study. The setting up of museums in India, especially during the later part of 19th century, was considered the best means of extending to people the knowledge of Art and Culture, integral to the country's heritage.

Museums perform diverse and multiple functions. They collect objects of art, pottery, textiles and various types of materials from different cultures/ traditions, past and present, that are often precious and rare. Museum objects are classified, registered and photographed. Some of them are put on display in permanent galleries or in temporary exhibitions, while others are kept in storage. Preparation of publications with well researched information and making the objects available to scholars for study are other aspects that make the museum a source of knowledge. Thus, in simple terms, a museum is an institution where there is a permanent exhibition and it is open to public for education, entertainment or recreation.

Textiles in museum collections vary enormously. They are valued for their historic interest, their aesthetic appeal and their cultural significance. Because of their wide appeal, textiles – particularly historic costume are often on permanent display in most museums. But our great interest in them can be their greatest enemy. We display them, wash them, wear them, and feel them to enjoy the texture of the fabric, and thus expose the textiles to the risk of damage. With an understanding of how to handle, display and store textiles safely, it is possible to take steps to improve the care and conservation of textiles and to ensure ongoing access to the historic and cultural information and the aesthetic pleasure that they provide.

ACTIVITY 1

Visit a museum in your city and list the textile exhibits. Interact with the authorities or caretakers of the museums and note their activities and measures taken to preserve the textile materials.

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BASIC CONCEPTS

Museums hold collections for many purposes like –

- Education
- Archives of historical evidence
- Demonstrations of the function of objects
- Exhibition or display
- Conservation.

For each of the above purposes, the collection must be maintained in good order, and it must be real. Therefore, conservation becomes the prime function of every type of museum. It is a specialised and professional activity, with its own training schemes, professional bodies, and codes of conduct and ethics.

In the early years of conservation the objective was to restore the object, sometimes crudely, to its former glory but restoration in museums is now often defined as "to return the objects to a supposed earlier state".

Conservation

Conservation is essentially an operation aimed at prolonging the life of an object and results in preventing, for shorter or longer period, its natural or accidental deterioration. It is of two kinds:

Preventive Conservation

Preventive conservation is an important element of museum policy and collection care. It is an essential responsibility of the museum to create and maintain a protective environment for the collections in their care, whether in store, on display or in transit. A museum should carefully monitor the condition of collections to determine when an artefact requires conservation work and the services of a qualified conservator. It aims at delaying deterioration by providing a favourable environment for every object.

According to International Council of Museum (ICOM) *preservation is an action taken to retard or prevent deterioration of or damage to cultural properties by control of their environment and/or treatment of their structure in order to maintain them as nearly as possible in an unchanging state.*

Remedial / Curative / Interventive Conservation

Curative conservation refers to any act by a conservator that involves a direct interaction between the conservator and the cultural material.

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These interventive treatments could involve cleaning, stabilising, repair, or even replacement of parts of the original object. It is essential that the conservator fully justifies any such work. Complete documentation of the work, carried out before, during, and after the treatment, rules out chances of later doubts. In simple words, it refers to the action taken to treat the defects already present in the object, protect it from further damage, and maintain it in good condition or restore it.

Textile Conservation

Textile conservation refers to the processes by which textiles are cared for and maintained, to be preserved from future damage. The concept applies to a wide range of artefacts that contain textiles such as tapestries, carpets, quilts, flags, clothing, curtains, upholstered furniture, dolls, and accessories such as fans, parasols, gloves and hats.

The person who preserves museum artefacts and items is known as a conservator. His or her role is to nullify or at least reduce the rate of deterioration of an object by preventive and interventive methodologies.

Factors leading to Deterioration of Textiles

Museum textiles are majorly constituted of natural fibres. As textiles are organic in nature, they are susceptible to various factors of deterioration; natural and man-made (Table 14.1). It is important for those caring for collections to understand what causes damage to textiles, how to recognise the symptoms and most importantly, how to prevent damage.

Table 14.1: Factors of Deterioration of artifacts

NATURAL FACTORS	HUMAN CREATED FACTORS
Light	Mishandling
Temperature	Neglect
Humidity	Bad storage
Pests	Accidents
Pollutants in the atmosphere	Fire

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Natural Factors

Textiles being organic in nature are susceptible to damage by light, heat, moisture, pests and pollutants. Let us now learn what works against the textiles and how it can be prevented.

Light

Fig. 14.1: Light Fading

One of the greatest threats to textiles is light. It is a form of energy that can fade colour and cause chemical and physical degradation of textile fibers. Exposure to both natural and ultra violet light can threaten the longevity of textiles. Both visible and ultra violet light is responsible for textile damage. Light damage occurs progressively. You must have noticed at home that the most faded folds of curtains are the first to shred and fall apart. Fading of colours, alterations of hues are the earliest easy-to-detect signs of light damage. First, items lose their flexibility, and then they become weak and brittle, and finally break into tears, fragments and ultimately dust. This process can be accompanied by general yellowing and browning of textile which is a useful indicator of poor state. Natural light is the most common source of ultra violet light. It is present in sunlight and is emitted by many bulbs. It is capable of causing the greatest amount of damage within the shortest time.

Preventing Damage from Light

- Minimise the intensity of light falling upon the object;
- Expose objects to light for a minimum period of time;
- Eliminate photo-chemically active radiations from the light;
- The general opinion is that the maximum level of illumination for susceptible objects like textiles should not exceed 50 lux.

Moisture and Heat

Climate plays an important role in keeping the museum objects in good shape. If the climatic conditions are not favourable, a chain of reactions begin to damage the exhibits. Controlled climate, particularly controlled temperature and humidity, keeps the exhibits in good shape.

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Humidity, whether in liquid state or as vapour, is particularly severe cause of damage to textiles. The alteration of high and low humidity leads to a constant expansion (swelling) and contraction (shrinking) of textiles which are hygroscopic in nature. Humidity is the basis for the growth of micro organism that infests organic materials like textiles. Low humidity on the other hand affects textiles due to loss of moisture content or dessication, making them brittle, fragile and breakable with slight mishandling since it affects their flexibility.

Preventing Damage from Moisture and Heat

- Monitor the humidity and temperature of the air. Temperatures both low and high are indirectly destructive. It has been recommended that relative humidity may be kept at 55% ± 5 and temperature between 20° C to 22° C ± 2° C. If necessary, use humidifiers or dehumidifiers to control the museum environment.
- Although low temperature discourages pests and mould, do not allow temperature to drop below freezing.
- Avoid storing textiles in natural problem areas of a building such as dry and hot top floors and humid basements.
- Allow air to circulate by avoiding overcrowding in storage boxes and in hanging cupboards.

It is necessary to record levels of humidity in the museum for devising effective control measures. Thermo hygrographs are available for 24 hours for 7 days for recording relative humidity and temperature.

Pests

Pests are another significant threat to textile collection, as there are number of creatures which can cause damage to fibers. Among the most common are moths, carpet beetles, silverfish and rodents. The insects menace is greater in tropical climates than in temperate zones because high temperature and humidity favour insect growth. Some of the insects cause havoc in their larval form itself while others cause damage in the fully grown form. Cloth moths are attracted to protein fibers and are especially drawn to silk, wool and feathers. An infestation might be identified through the evidence of white cocoons on the textiles, or of sighting the insects

Fig. 14.2: Pests

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themselves. Silverfish and firebrats are related insects which consume starch, usually found in sizing or other treatments applied to fabrics, as well as plant based textiles such as cotton and linen.

Preventing Damage from Pests

Prevention of insect damage is safer for both people and the environment, and far easier and cheaper than using pesticides to cure a rampant infestation.

- Keep the museum environment cool and dry.
- Keep spaces clean, tidy and clear of rubbish inside and out. Debris from roosting birds in gutters and roof spaces is a common source of infestation.
- If possible, set aside an area away from the storage and display areas where incoming and outgoing objects are packed and unpacked and where suspect items can be quarantined.
- Check regularly for infestation in all undisturbed, warm, dark places like under cabinets; attics and basements; and under carpets and curtains.

Mould

Mould outbreaks occur in damp environments when there is little air movement. If you find furry growth or scattered stains on textiles, or a musty smell in the air it is an indicator of likely damage from moulds. Moulds can permanently decay or stain textiles, and eventually the fabric can lose its strength completely. Dust masks, goggles, disposable gloves and overalls are recommended when handling mouldy textiles.

Preventing Damage from Mould

Controlling the environment is the only really effective protection from mould. Although many treatments have been tried in the past, there is no real cure for mould once it is established in a textile.

- Keep relative humidity below 65 per cent and the temperature below 18° C.
- Ensure air circulation. Especially avoid putting storage boxes in contact with damp walls and over-packing boxes if there is the slightest risk of dampness.
- Avoid spreading contamination. Do not unpack mouldy textiles near other objects or reuse boxes that have contained infected textiles for other objects. Wrap affected items in acid-free tissue paper to prevent spores spreading, while ensuring air circulation.

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Dust

Dust is a fine particulate airborne pollutant that can contain a mixture of various materials such as fibres, soil particles, fragments of human and animal skin and hair, air pollution particles such as soot and ash, mould spores, paint fragments and pollen.

Dust freshly settled on the surface of textiles can be removed but in time it gets embedded between fibres and so is almost impossible to remove. Dust can also harbour pests by providing them with nourishment.

Preventing Damage from Dust

- Use conservation quality showcases from specialist manufacturers designed to seal against dust.
- Avoid open display and ensure that all textiles displayed in the open are cleaned at least each year using gentle vacuum suction by trained staff.
- Protect textiles by wrapping and covering with dustsheets whenever they are outside display cases or boxes. All wrappers must be air-permeable - use impermeable plastics such as polythene sheeting only to protect textiles against water in an emergency.
- Make sure textiles do not come into contact with dusty surfaces such as table-tops and box-lids. Use clean dustsheets placed over surfaces when laying textiles out for inspection.

ACTIVITY 2

Visit a museum with textile collections and list the damages, if any, and record the reasons that may have caused the changes in the artifacts.

Human Created Factors

The damages caused by humans are numerous and varied - injuries to textiles by mishandling, neglect, bad storage, accidents are among the most frequent. Textiles are torn at the creases, because they are stored folded. The damages are physical and can be largely avoided by careful handling and by observing appropriate procedures for packing and storing.

Storage of Textiles

All items in a collection are affected by adverse storage conditions. Since changes occur gradually over a long period of time, the effects are not always obvious. However, once the changes have occurred they are often irreversible, or require complex and costly treatment. A good storage

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environment prevents physical damage and helps to slow down chemical deterioration, greatly increasing the life of the textile items.

Ideal storage conditions are the measures already discussed in preventing all types of damages. So textiles should be stored in appropriate environmental conditions. Light should be kept to minimum. It is required only when the textiles have to be viewed, for example, when they are being accessioned, treated, or used for research.

Textiles should be stored as per the size and need of the artefact as shown in the following figures

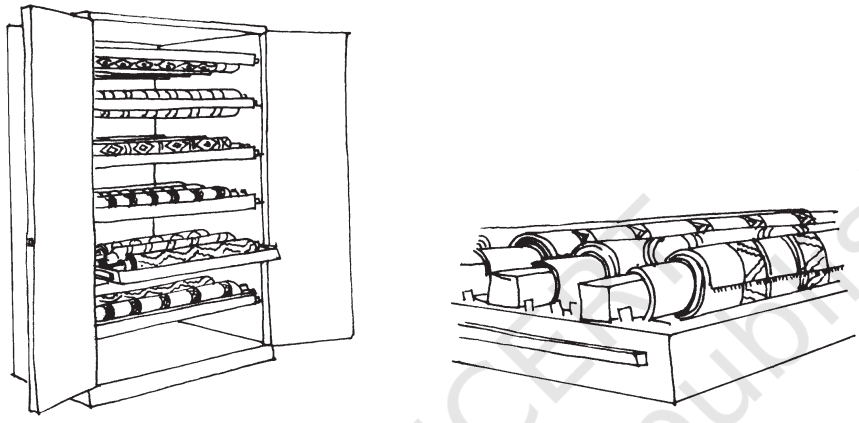

Fig. 14.3: Rolled Storage

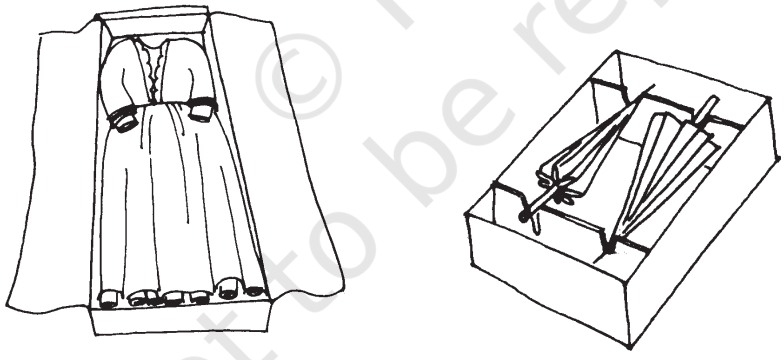

Fig. 14.4: Box Storage

Ideal Conditions for Displaying Textiles

Textiles should be protected from pollutants, dust and insects. Airborne chemicals that most commonly affect textiles include smoke, oil and acids. Smoke causes staining and discolouration, which are extremely difficult to remove. Textiles displayed in a room with a fireplace or where smoking is permitted should be housed in smoke-proof containers such as sealed

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frames or sealable boxes. Acids are also given off in small quantities by pest strips and some types of plastic. Consequently, pest strips normally should not be used inside enclosed storage and display areas.

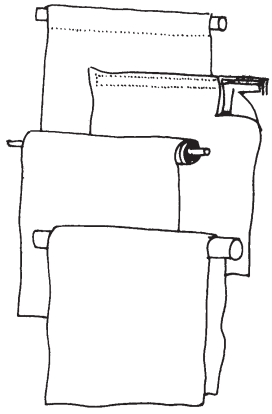

Fig. 14.5: Hanging Display

PREPARING FOR A CAREER

This is an upcoming field that offers a lot of creative satisfaction especially to budding artists. To become a conservator one of the most essential requirements is to have a 'sense' of art. One should have fondness for art and understand and appreciate the intricacies involved in any piece of art.

- One needs to have sound knowledge of basic sciences especially Chemistry and Physics. Such classes are a prerequisite for some programmes, such as the Master of Arts at some Indian and foreign universities.
- You have to have knowledge of history, techniques and processes of Indian as well as world textiles in order to determine the suitability of methods of preservation required for them.
- Also, you need to have knowledge of the advanced technologies used in art conservation.
- Art knowledge and sensitivity to aesthetic value are advantages to a conservationist, but even more important is to know how materials interact, age and decay. This knowledge allows conservationists to counteract the decline of fabric and to help artifacts survive longer.
- Characteristics that are helpful to become an art conservator include manual agility, strong communication skills and the ability to work alone or in a team environment. Knowing how to use computers and computer software systems is important.

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- Having problem-solving and analytical skills is necessary.
- Having passion and persistence for extensive research are essential for a successful conservator.
- You must be an art lover and absolutely passionate about the works of master artists.

Various institutes offer short term as well as Degree in Art Conservation courses. A number of museums and art galleries provide opportunity to budding professionals to have on-the-job training where students are given stipends.

- National Museum Institute of History of Art, Conservation and Museology (NMIHACM) is a deemed university under the Ministry of Culture, Government of India, located in the National Museum, New Delhi. The university offers specialised courses in History of Art, Conservation and Restoration of works of art, Museology, leading to the award of M.A. and Ph.D. degrees.
- The Delhi Institute of Heritage Research and Management; the Lucknow-based National Research and Laboratories of Conservation; and institutes run by Indian National Trust for Art and Cultural Heritage (INTACH) offer a number of short-term courses in art conservation.
- Departments of Fabric and Apparel Science/Textiles and Clothing/ Textile Science and Apparel Design under the faculties of Home Science at various universities offer courses related to Textile Conservation (e.g., University of Delhi) in Postgraduate programmes that include the study of Textile Documentation and Conservation in theory and practical that prepare the students adequately to work in museums in various capacities.

Scope

After one is entailed with either degree or short-term diploma in the Art Conservation field, one has the option to work either in the government or in the private museums or art galleries. Government employs art conservators for state-run museums and art galleries. State-run institutions also employ such professionals. Art Conservation institutes run by the Indian National Trust for Art and Cultural Heritage also employ such professionals. Private galleries, museums, houses or individuals having large personal collections, or shops and emporia dealing with antiques also look for these professionals either for full time employment or on project or assignment basis.

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But the most encouraging option is either free-lancing or self-employment. Freelancers are not bound by geographical boundaries and very often are employed by galleries located in western countries.

There are many avenues after doing a course in conservation –

- Conservation Assistants ensure that the house and its collections are cleaned and presented at the highest possible standards for visitors.
- Curators have a post-graduate curatorial or museum qualification, along with in-depth knowledge and experience of their specialist subject that can be textiles also. They are responsible for recording, understanding, protecting and explaining the historic properties in care, safeguarding and celebrating their cultural, social, political and economic heritage.

KEY TERMS

Museum, art conservation, textile conservation, preventive and curative conservation, conservator, curator

REVIEW QUESTIONS

1. What do you understand by the terms conservation and textile conservation?
2. What is the difference between preventive and curative conservation?
3. Describe the environmental factors deteriorating textiles?
4. What recommendations will you give for storing textiles in museums?
5. What type of knowledge and skills are required for being a textile conservator?
6. If someone needs guidance on entering the field of art conservation, what would be your advice?

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