

Care of Textiles

Throughout human history, textiles have played a rich part in the lives and traditions of people of all cultures. They have been constructed using a wide variety of materials and techniques — from natural fibers such as cotton, silk, flax, and wool to regenerated or manufactured fibers such as rayon, nylon, and polyester. Textiles can be simple in structure and composition or can be part of complex composite objects that incorporate other materials like paper, leather, glass, metals, paint, stone, horn, bone, shell and feathers. Contemporary household furnishings, clothing, many fashion accessories, and even fragmented archaeological finds are all textiles.

Textiles, such as quilts, tapestries, embroideries, flags, and christening gowns are often treasured for their artistic, technical, cultural, and sentimental value. Most textiles, at some time in their history, have served as functional objects. This history of use, along with environmental and handling factors, can affect a textile's condition, resulting in the need for special care to ensure its long-term preservation. Making careful and informed decisions regarding the handling, display, and storage of a textile can make the difference between a short life span and a textile's preservation for future generations.

Environment

The deterioration of textiles is often due to a combination of physical, biological, and/or chemical factors working together to cause damage. Inappropriate lighting; improper temperature and

relative humidity levels; excessive dust, dirt, and other pollutants; insects; mold and mildew; and incorrect handling all contribute to damage.

Light

Both natural and artificial light can fade color and contribute to the degradation and permanent damage of many textile fibers. The rate at which damage occurs is determined by the level of illumination (lux) and the duration of exposure. And, unfortunately, light damage is cumulative and irreversible. If long-term preservation is a concern, protecting textiles from light exposure is key. To this end, several simple and practical steps can be taken: keep draperies drawn to protect textiles from strong, direct light; use ultraviolet light filtering glazing (or Plexiglas) when framing textiles for display; and install ultraviolet light filtering films on windows and over other light sources. Keep in mind, however, that all types of light damage textiles. The risk of light damage can be further minimized by periodically rotating your textiles on and off display.

Temperature and Relative Humidity

High temperatures speed up the rate of many chemical reactions, and as a result, speed up the rate at which damage can occur in fibers, dyes, and other component materials of textiles. For this reason, textiles are best stored and displayed as far away from heat sources (fireplaces, spotlights, windows, etc.) as possible. Areas inclined to high temperatures (above 27 C) and those subject to sudden or great temperature changes, such as uninsulated attics and basements, are not appropriate for the safe

storage of textile artifacts. Relative humidity is a measure of the amount of moisture in the air. Because many organic materials contain moisture, fluctuations in temperature and relative humidity can cause these materials to expand and contract as they take in or lose moisture. A painted silk banner, for example, can be adversely affected when the pigment and binder in the painted design do not expand and contract at the same rate as the fibers in the silk fabric. As a result, the paint layer will tend to crack and flake off. Other potential problems associated with high relative humidity are mould and mildew, the corrosion of metal threads, and the bleeding of some dyes. Relative humidity is best maintained at a constant level between 45 and 60 percent.

Pollution and Airborne Soiling

Smog, car exhaust, and ozone are common pollutants that can cause physical and chemical damage. Textiles are particularly susceptible to abrasion and physical damage caused by dust and other gritty particulate surface soiling. Eliminating exposure to these contaminants is an important aspect of preventive conservation care. The use of particulate air filters and protective display and storage enclosures is recommended when planning for the long-term preservation of textiles.

Display and Storage

Textiles are best preserved when displayed and stored in clean, well-ventilated areas that are routinely and adequately maintained. Controlling dust, clutter, and other accumulations of extraneous material will greatly reduce the possibility of damage caused by insects, rodents, and microorganisms such as moulds and fungi.

Inspect your textiles often, ideally at six-month intervals, to identify problems early on. Indications of active deterioration are an increase in textile discoloration, tarnishing of metal components, and the presence of a sweet or musty odor. Signs of insect infestation include small, irregularly shaped holes, and/or the presence of insect casings and frass. Controlled vacuuming can be an effective means of reducing dust and other particulate soiling, though not all textiles, can be safely vacuumed. There are various methods of vacuuming depending upon a textile's condition, component materials, and method of construction. Specially-modified equipment allowing for low suction is often necessary for vacuuming to be accomplished safely. For fragile three-dimensional textile artifacts, dusting lightly with a soft brush into a specially-modified low-suction vacuum nozzle may be preferable. Contact a professional conservator to discuss appropriate techniques before you begin.

Handling

Proper handling is important for the long-term preservation of textiles. Textiles are frequently more fragile than they first appear. Before attempting to handle or move a textile, familiarize yourself with its weak areas. Physical damage can occur suddenly as a result of even careful handling. Support a textile in a manner that distributes its weight evenly. A delicate silk embroidery maybe supported by sliding a piece of paper or cardboard underneath, while a heavier textile such as a carpet or tapestry is best rolled on a large tube or carried in a fabric sling. Clean hands are important when handling textiles, as human skin contains oils and perspiration. Refrain from using skin creams as they may be readily absorbed by textile fibers and later contribute to

staining. Wash your hands frequently or wear inexpensive white cotton gloves that are available through photographic and conservation suppliers. Remove jewelry or anything that may snag and be careful not to rub or drag your hands against the textile. Be aware that yarns and fibers can be easily pulled, frayed, and weakened depending upon the textile's condition, its component materials and method of construction.

Housing: Framing, Display and Storage

The materials used in frames and storage enclosures must be carefully selected to ensure a protective and stable environment. Most wood, packing cardboards, and some plastics are chemically unstable. Use archivally stable materials such as barrier films, acid-free unbuffered matboards and paperboards, rolling tubes, and storage boxes that are available through conservation supply catalogues and at some art supply stores instead. Contact your local museum, or a conservator for sources near you.

Disasters

The two most common forms of disaster damage are those caused by water and fire. Prompt attention to textiles following a disaster can greatly reduce the likelihood that they will suffer permanent damage. In the case of wet artifacts, remember that most textiles become weaker when wet and will need support for safe handling and transport. If handling is possible, separate colored textiles from others to reduce the risk of dye transfer. Rinse any silt or debris off with clean, cool water, then blot the textiles carefully with absorbent toweling to remove as much moisture as possible. Lay the textiles flat to dry in a room with good air circulation.

Cover them with clean, thin, cotton sheets to absorb impurities and provide protection during drying. If the water-damaged textiles are already dry, deposited soiling may often be removed with a soft brush and special low-suction vacuum, as previously described. When there are too many water damaged textiles to dry immediately, it is advisable to contact a conservator or local museum for advice. It may be possible to freeze the wet textiles to prevent mould growth and arrest bleeding dyes. Arrangements can then be made to examine and dry the textiles under controlled conditions. Fire, soot, and smoke damage pose special problems for textiles. It is always advisable to contact a conservator before handling a soot-damaged artifact. Handling can irreversibly drive sooty surface soiling deep into the fibers of a textile. The use of ozone to remove smoky and/or mould and mildew odors from a textile is not recommended as ozone will accelerate aging and degradation in many textile artifacts.

When to Consult a Conservator

Before attempting to repair, clean, or mount a textile artifact, contact a professional textile conservator for advice. The conservator will examine your textile, evaluate its composition and method of manufacture, document its condition, and make note of inherent problems and areas of damage. A treatment option will then be proposed, taking into account your concerns and any relevant historical information. The AICCM's website, will direct you to a qualified conservator in your area. If you have trouble locating a suitable person, please contact us direct.