

TEXTILES

Introduction

Most historic site collections contain numerous artifacts that fall under the heading of textiles, such as rugs, curtains, bedspreads, upholstery, clothing, tapestries, flags, samplers, etc. Textiles can be composed of many different fibers, with linen, cotton, wool and silk the most common. All textiles become fragile from age and improper environmental conditions. Thus, it is important to handle, exhibit and store them properly. The following rules are far from exhaustive but will help in coping with the conservation problems peculiar to textiles.

Deterioration of Textiles

1. Light

Aside from the obvious damage caused by human mishandling, the greatest damage takes place slowly and unnoticeably. Light, both sunlight and indoor light, is the most harmful factor. It destroys the structure of the fiber creating tears or complete loss and fades many of the dyes far from their original color.

2. Relative Humidity and Temperature

The combined factors of temperature and relative humidity also cause damage. High temperature and low humidity dry out and embrittle the fibers until they powder away. High temperature and high humidity provide the perfect environment for mold growth. High humidity also fosters condensations which can completely change the color of the textile and cause irreversible damage.

3. Atmospheric Pollutants

Atmospheric pollutants) such as sulphur dioxide, and dirt, change the aesthetic appearance of a piece and, if left for a long time, can cause even further damage. Sulphur dioxide combines with moisture in the air to form a mild acid that can deteriorate fibers. If not kept under control, dirt often becomes so embedded that it is impossible to remove.

Insects, which are attracted to dirty fabric, also cause irreversible damage. Moths, like other insects, rely on dirt and dust in corners and crevices in which to breed, and the moth itself prefers fabric which is dirty.

4. Correction of Damage

Correcting textile damage, through restoration and conservation treatments, is often time consuming and expensive, but measures of prevention through correct handling, display, storage and careful inspection should be used at once to avoid new damage or further deterioration.

Handling

1. Cleanliness

Ideally, the best way to prevent damage to the textile from handling is not to handle. However, practically speaking, textiles must be handled; therefore, hands must be clean. Oils and dirt from the skin are readily transferred to any type of fabric. White, lint-free cotton gloves should be worn when handling textiles. Work areas and work surfaces should also be clean and dust free otherwise the textile acts as a dust cloth. A clean cotton sheet over the work surface can reduce the accumulation of dust and dirt on the textile.

2. Carrying Textiles

If it is necessary to carry a fragile textile from one area to another, always put a solid support under the textile. Although it is much easier to pick up a textile by the corner and move it, this method of handling may result in splitting the piece into two or more parts. To turn over a textile, use some supporting material on both the front and back to prevent further tears, breaks or loss.

Display

1. Duration of Display

Textiles, ideally, should be displayed only about four months of the year and kept in a controlled, dark, storage environment during the remainder. Many collections, however, are not large enough for frequent changes of display and protecting these textiles becomes even more critical. Deterioration of textiles on display from light, heat and air pollutants must be prevented.

2. Light levels

Wherever possible, draw the window shades to keep sunlight from disintegrating or fading curtains and other textiles. The light level from indoor illumination should be maintained at 150 Lux for sound items and 50 Lux for fragile items.

3. Control of Temperature and Relative Humidity Air conditioning is recommended, with an ideal temperature of 65 degrees F. If air conditioning is not possible, provide adequate ventilation in the display rooms and maintain the relative humidity by means of humidifiers at 55%.

4. Protection from Atmospheric Pollutants

Display textiles behind glass, making certain the glass does not rest directly against the textile but is separated by strips of 100% rag board. Exhibition cases are also recommended.

5. Mounting Methods

Proper methods of mounting and/or hanging textiles are also important. Textiles should never be displayed by simply stretching the top across a piece of wood and hammering the wood into the wall, nor should they be tacked or pinned to a soft board. These methods put all the weight of the piece in one area and will soon result in sagging, stretching and tearing.

a. If textiles have no support and cannot be displayed flat, a simple but very satisfactory way of displaying unframed textiles is to cover a piece of wood, masonite, upson board or some similar material with white velour, velvet or felt and set it at an angle (about 30 degrees) in a case with the artifact resting against it. The velour provides a soft backing that holds the artifact in place without pinning, stapling or nailing.

b. A method conservators use to display samplers is to mount them on a piece of 100% rag board around which has been sewn stretched, unbleached, washed and ironed muslin. The sampler is then sewn to the board with a curved surgical needle and cotton thread. If it is to be framed, the sampler should be separated from the glass to prevent damage from condensation.

c. Another method of mounting is to cover a stretcher with muslin and stretch an additional large piece of muslin over the reverse. The textile can then be sewn to the muslin. The top of the mount is covered with a sheet of plexiglass so the top of the artifact is recessed below the plexiglass. A backing of pegboard lined with flannel is attached to the reverse. This method provides a frame, protection from dust and dirt and adequate ventilation.

6. Important Considerations

Whatever method may be employed, important considerations are: (1) do not let the textile directly touch glass or wood (wood has acid properties that cause the fibers to disintegrate); (2) allow for adequate ventilation, so pockets of damp or stagnant air cannot form; (3) do not display the textile in a direct source of light or heat; (4) do not make any one small area of the textile support the entire weight (i.e., always use some type of supporting material); and (5) never use glue, staples, ordinary straight pins or nails on the artifact itself.

7. Rug Displays

When using historic carpets or rugs, always make sure to protect them from damage by placing under the feet of furniture plexiglass, glass, plastic or rubber cups. These materials distribute the weight of the heavy furniture over a larger area. It is also advisable to reverse rugs every six months to a year to equalize areas of wear. People do the most damage to rugs and carpets. If possible, do not let them walk over the rugs; where they must, be sure to put down a plastic runner to keep dirt and dust from being ground into the rug and to reduce abrasion and wear.

8. Costume Displays

The ideal way to display costumes is on mannequins covered with an acid free paper or cloth, such as muslin. If these forms are not available, wood, wire or plastic hangers, adequately padded with cotton wadding and covered with muslin, will suffice. Never hang a costume directly on wood or wire. Acids in the wood are harmful while rusty wire can eat away at the material, and, in addition, all the weight of the costume is concentrated on two sections of the shoulder.

9. Buttons

Great care should be taken with buttons on clothing. If a button is loose or has fallen off, it should be stitched back on immediately with Cotton thread, unless the material is desiccated. Never polish buttons that are attached to a piece of clothing unless adequate protection is given to the garment. Take special care to prevent buttons from rusting. If a button has rusted or is liable to rust (including brass buttons with iron backs), it should be removed, then cleaned and lacquered - before being sewn back on the garment.

Storage

1. Ideal Storage

Proper textile storage requires an extensive amount of space and specially built rooms that are light tight, climate controlled and have floors able to carry a great amount of weight. Preferably, textiles should not be stored against an outside wall. If such storage facilities are not available, alternative methods can provide adequate storage.

2. Cleanliness

Cleanliness is paramount. Make sure that the storage room and work surfaces are spotlessly clean. A good location for a textile storage area is in an untraveled area. Keep the storage room closed except for inspection, study purposes or display changes.

3. Relative Humidity and Temperature

If the room is closed, maintain the relative humidity at 55% with humidifiers and the temperature around 65 degrees F. with air conditioning, if available. Without air conditioning, try to keep the room well ventilated to avoid pockets of moist or stagnant air.

4. Light

Keep the room dark, admitting light only when the collection is being studied, rearranged, etc. Cover any windows with black plastic or several layers of dark cloth.

5. Insect-Proofing

To keep the storage area as moth-proof and insect-proof as possible, spray periodically with spirits of camphor, taking special care not to spray any of the textiles.

6. Folding Textiles

Folding textiles, although convenient and economical of space, endangers the thread and fiber structure. Fold only as a last resort and with great care. From time to time, check the folds and refold in a different place. Folds should never be pressed down tightly but left loose. Place wadded tissue paper in the fold area to cushion the fabric.

7. Rolling

An alternative to folding is rolling. Large cardboard mailing tubes covered with mylar and acid-

free paper provide an easy and proper means of storage. Carefully roll the flat textile onto the tube, right side inward, avoiding any creases, as these act as folds. Cover the rolled textile with a polyethylene plastic sheet tied loosely with 1/4" twill tape. Leave open the ends so the fibers receive proper ventilation.

8. Rolling Rugs

Roll rugs on wooden poles or pipes 3" to 4" in diameter that are strong enough to hold the weight of the rug. Always cover the poles or pipes with a protective coating of some kind, preferably mylar or acid-free paper. Rugs are rolled with the pile, or right, side inward. In some cases, depending on condition, it is acceptable to roll the rug with the pile, or right, side outward. Textiles rolled on tubes should be fitted onto a storage rack in such a way that one area of the textile does not receive the full weight; if the roll were lying flat on a hard surface, all the weight would be concentrated in one area. If space is limited, attempt to provide the best storage conditions by avoiding excessive stacking or crowding. It is also important to note at this time that one should not partially unroll a textile - it should be unrolled completely before it is rerolled.

9. Flat Storage

Fragile textiles or textiles with applied heavy ornamentation should be stored flat in acid free containers or boxes, such as solander boxes or lined metal cabinets, that prevent damage from light and dirt.

10. Costume and Costume Accessories Storage

Costumes can also be stored flat in boxes or in shallow drawers. However, specially prepared hangers or forms support the weight of the costumes more evenly and help them keep their shape. Clothing accessories, such as shoes, hats and gloves, should be stored on form fitting shapes - shoe trees for shoes and styrofoam heads for hats. Tissue paper, crumpled and stuffed into shoes, hats or gloves, also helps retain the shape of the artifact. If these items are not stored in boxes or cabinets, they should be covered with polyethylene plastic sheeting or muslin.

Cleaning Techniques

Textiles that are stained, soiled or disintegrating can be given added strength and life expectancy

through proper cleaning techniques. Washing in distilled water with correct, low strength detergents or dry cleaning with solvents can restore strength to the textile fibers by removing accumulated acids and dirt.