

SPECIAL REPORT

NOTES ON TEXTILE CONSERVATION by Pat Hilts,
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PART II STORAGE AND DISPLAY

Once a textile has been cleaned, it is ready for storage or for display. In either case, it will be subject to a variety of environmental stresses, and a fragile textile like a delicate person must be protected from such stresses. Because many of the stresses act together, they can be grouped together and discussed together. Under the heading of Group I fall such things as heat, moisture or humidity, dust and air pollution. Group II contains just one item, light. Group III contains what I like to term storage and handling stress, contamination from contact with containers, insect and fungus attacks.

As amateurs we have less control over many of these environmental factors than would a well funded, well equipped and well staffed museum, but we can, nonetheless, take such precautions as are within our means. In many cases we can do better than an institution which is poorly funded, equipped and staffed.

For most of us who live in ordinary houses along with our textiles, the factors listed in Group I are the most difficult to control. Without air conditioning, summer temperatures can rise much higher than the 50° to 70° recommended for textile storage, and the relative humidities can also go well above the desired 50% level. In winter without humidification, indoor humidities can fall as low as 5%. Naturally, one is tempted to ask just what is so sacred about the 70°F, 50% humidity figure. At temperatures and humidities above those figures both fungus and insect activity are encouraged. At relative humidities below 50%, textiles become brittle and hence more easily damaged. Also, as relative humidity changes, fibers shrink or swell in the same way that wood does, and these small motions can do much harm, particularly to items fastened into frames.

From personal experience, I have found that in summer a house with central air conditioning will come very close to the ideal temperature and humidity conditions. In winter, even with a furnace humidifier, it is difficult to get relative humidities above 20%. However, in practice, even museums may have difficulty with humidity control in winter because at levels above 30%, water can condense inside the outer walls of a building and eventually cause structural damage.

Airbourne dust is less of a problem; reasonably tight boxes, chests and drawers will keep out most of it where storage is concerned. Textiles properly framed under plexiglas or glass will also be sufficiently protected. Large pieces displayed in the open are more of a problem. Electronic air cleaners installed in a forced air heating system are a great help, and many people may already have them because of family members with various allergies. Unprotected textiles should be gently brushed or vacuumed from time to time and should not be left up for too long.

Even without all of the aforementioned gadgetry, we can still exercise some control over temperature and humidity extremes. We can keep our textiles away from radiators, hot air registers and portable heaters, and we can keep them out of hot, dusty attics and damp basements.

Fortunately, the remaining groups, II and III, are more easily dealt with. The single item in Group II, light, is one with which we have all had experience. We all know the one cardinal rule: LIGHT FADES TEXTILES. The complex molecules which give a textile its color are rather fragile structures, and the energy carried in a beam of light is sufficient to break these structures down into simpler molecules which are often colorless. The ultraviolet light present in sunlight and in light from fluorescent tubes is the worst offender since it is the most energetic, but all light is harmful and the brighter the light, the greater the harm. Still, we need some light in order to see a textile; the best we can do is to limit that light. Storage presents little problem since boxes (except clear plastic ones), chests, drawers, and closets are dark most of the time. Display, however, is another matter. The best display situation would be a room dimly lit with tungsten filament light bulbs. When hanging a textile for display, sunlight should be avoided, which means in practice that textiles should NEVER be hung opposite windows. For places where fluorescent light is used, special UV filters are available to put over the lamps. Another good way to cut out ultraviolet light is to use indirect lighting; light which has been reflected from a white surface is very low in UV wavelengths. One final thing to remember is that fading is proportional to the length of exposure as well as to the brightness of the light. Therefore, do not keep any one textile on display too long.

Group III, handling and storage stresses, are particularly insidious since we are often unaware that they exist and do not see the effects until too late. Mechanical stress can do great harm since most old textiles are brittle and weak. Pieces of silk or linen can literally break along sharp creases; heavy tapestries can tear from their own weight; delicate surface threads can be literally rubbed off.

In an ideal world every old textile would be laid out flat with no folds or wrinkles and in contact with no other piece. We do not live in an ideal world and must do the best we can. In the better museums really large pieces such as tapestries and coverlets are rolled around padded cylinders of reasonable large diameter, provided with clean muslin dust covers and secured with wide cloth tape. Smaller pieces including long strips of lace are sometimes similarly handled on smaller rollers. Storage of large rolled pieces presents some problems; usually they are hung from the ceiling by some sort of pulley system. Given the right sort of closet, such an arrangement could even be used at home and would take up a minimum of space. When textiles must be folded, pad the folds with acid free tissue or with clean cotton cloth.

Items in storage should be protected from the container and from each other. Acids from ordinary paper and boxes as well as from wood can migrate into a textile and damage it. Plastic bags, while not ideal, are better than nothing; again, clean cotton cloth is the best material for lining containers and for putting between layers of textiles when they must be stacked. Acid free paper and boxes are available, but are not easily obtained.

Although most of us will not be getting our textiles in and out of storage on a daily basis, we should take some care in handling them when we do. Pieces being handled

should be supported as much as possible and never, never held so that all of the weight falls on just a few threads.

Attacks by insects (usually clothes moths) or by fungi (mold and mildew) rate as major disasters where textiles are concerned. The best cure is prevention, and if items are regularly inspected, aired and brushed, and if temperature and humidity are kept within bounds, such attacks will be very rare indeed.

Moth balls (usually p-dichlorobenzene) are not especially toxic to moths but act more as a repellent. In any case, concentration of vapor from the moth balls must be quite high, which in practice means that textiles to be protected must be kept in tightly closed containers. One more thing to note is that the moth balls should not come in direct contact with the textiles but should be encased in a little cloth bag. P-dichlorobenzene, incidentally, also helps prevent mildew.

If a moth attack does occur, commercial aerosol moth proofers which can kill the pests at all stages are effective. Results are not in concerning the long term effects of such products, but in the short run they seem to do little harm.

Most of us will eventually want to mount some small pieces for display. The following method, though one of several, is relatively simple and illustrates some of the conservation principles discussed.

Begin by choosing a piece of clean (well washed to remove sizing, etc.) light weight cotton or linen cloth whose color will enhance the textile to be displayed. Then staple it to the back of a wooden frame (a canvas stretcher will do) so that the warp and weft of the cloth follow the straight edges of the frame. Next sew the textile specimen to the background inside the frame with fine tacking stitches using fine cotton or silk thread and a fine ball point needle. Rows of stitching should not run clear across the piece in any direction be should be arranged as shown in figure 1. Once the specimen has been tacked to the background, fasten a piece of cotton flannel and a piece of peg board over the back side of the frame. Finally, the face of the wood frame can be covered with glass or plexiglas and the whole package put into an appropriate frame. See figure 2. Note that the flannel gives dust protection, the pegboard admits fresh air, and the space between the textile and the glass permits circulation. The display mounting is a miniature storage facility, A mounting incorporating the same principle as the above one can be made from acid free mat board.

Textile conservation is a large and complex subject which these two articles can only briefly introduce. Anyone seriously interested in the care of textiles should read as much of the literature as possible and consult knowledgeable curators whenever they are available.

Following are some sources of supplies and some books of interest:

BIBLIOGRAPHY

Jentina E. Leene. Textile Conservation. Washington, D.C.. Smithsonian Institution Press, 1972. An excellent basic book covering many aspects of conservation.

James W. Rice. Textile Museum Journal. "Principles of Textile Conservation Science I-XVI," Dec. 1963-Dec. 1970. The chemistry and its consequences clearly and interestingly set out.

Merrimac Valley Textile Museum, North Andover, Massachusetts. A series of leaflets on textile conservation.

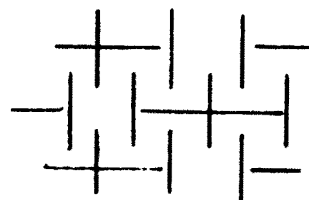


Figure 1. arrangement of stitches

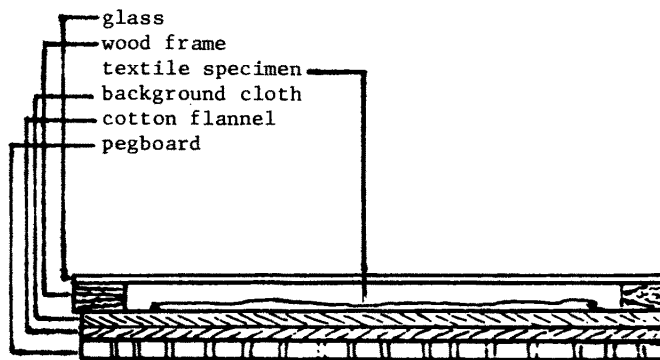


Figure 2. mounting

Item	Source
acid free mat board and barrier papers (our local suppliers)	Artsign Materials Co. 2501 - 26th Ave. S. Mpls 55406
	Aldy Graphic Supply Inc. 1115 Hennepin Ave. Mpls 55403
acid free tissue	Hollinger Corp. Box 6185 Arlington, VA 22206
cardboard tubes	Chicago Paper Tube & Can Co. 925 W. Jackson Blvd Chicago, IL 60607
crepeline (mounting cloth)	Transporo Co. P.O. Box 838 New Rochelle, NY 10502
stabiltext (mounting cloth)	Swiss Silk Bolting Cloth Mfg. Ltd. Zurich, Switzerland
General suppliers willing to sell in small quantities:	
TALAS 104 Fifth Ave. New York, NY 10011	Picreator Enterprises Ltd. 44 Park View Gdns, Hendon London NW4 2PN
Frank W. Joel Conservation Laboratory Supplies 9 Church Manor Bishop's Stortford, Herts.	

One more book to read: Caring for Textiles by Karen Finch and Greta Putnam (it is not a manual for professionals, but a guide for those of us who have some old pieces in our care). I cannot guarantee that all of the suppliers will deal with you, but you can at least try.

Pat's articles on textile conservation originally appeared last year in the newsletter for the Madison Weavers Guild. Part I on how to wash a textile was published in the January issue of the Weaver.