



THE UNIVERSITY OF ARIZONA

# ARIZONA STATE MUSEUM

## SOME COMMENTS ON THE CARE OF NAVAJO TEXTILES

By Nancy Odegaard, Ph.D., Conservator, Head of Preservation

### PROVIDING A SAFE ENVIRONMENT

Preserving a Navajo textile in your home means providing a safe place that prevents deterioration beyond that which has already occurred. The perfect environment does not often exist. However, by attempting to provide a safe environment, many of the harmful conditions or agents of deterioration that affect textiles may be prevented or minimized.

Conservators recommend that Navajo textiles be kept away from direct sunlight or high intensity artificial lights. This placement inhibits fading or bleaching and the embrittlement of the naturally or artificially dyed wool yarns. Museums often utilize infrared protecting screens to reduce heat gain through windows. Ultraviolet protecting films or sleeves to reduce the harmful rays associated with sunlight and fluorescent bulbs, and the careful selection and placement of the lighting system during the installation of an exhibit involving Navajo textiles.



Valuable textiles should also be kept away from open windows, exterior doors, house plants and pets as dirt, dust, grime and insects may lead to serious problems. Likewise, it is better to avoid placement of the textiles near the kitchen, the fireplace or heating registers so that grease and soot deposits can be avoided. The organic fibers in Navajo textiles may also absorb odors from foods, cigarettes and perfumes.

Changes in the relative humidity and temperature cause swelling and the shrinking of the wool yarns. In uncontrolled conditions the yarns will swell, distort, and embrittle in ways that cannot always be reversed or changed. It is best to avoid placement of Navajo textile in the bathroom, or on an exterior wall and in other areas that have more severe fluctuations in temperature and humidity.

### CLEANING

Regular vacuuming of both sides of the Navajo textile will help remove loose dirt and dust on the surface and will also diminish the chance of insect infestation by removing clothes moths and carpet beetle insects, larvae, eggs, and frass.

Vacuuming should be done with the textile placed on a flat surface. A nylon or polyester screen (that has had the edges taped to prevent snags) can be used between the vacuum nozzle and the textile to prevent threads and fragments from being pulled into the vacuum.

Washing is not recommended. Some of the reasons include: 1) many of the dyes found in Navajo textiles are water soluble, 2) most detergents are somewhat alkaline which further contributes to the deterioration of the protein found in wool, 3) wet wool is extremely heavy and susceptible to uneven stretching and straining, especially on weaker yarns, and 4) agitation of the wet yarns can cause felting of the yarns which changes the surface appearance and texture of the textile.

Some Navajo textiles may be dry-cleaned, but it essential that all dye colors be tested before the cleaning process begins. A dry-cleaner experienced with Navajo textiles should do the testing and the hand-dip rather than the use of a tumble machine should be used. The collector/owner should be aware that the dry-cleaning process does remove some natural oils from the wool in addition to the stains.

## INSECTS

The best control of insect pests in Navajo textiles involves regular examination and vacuuming. Carpet beetles and clothes moths are the most common domestic pests. The voracious larvae prefer quiet and dark environments to complete their life-cycle. Optimal conditions and plenty of food (the textile) enable the adult insects to lay eggs that develop into larvae within a few weeks. If an infestation is suspected, the textile should be isolated and placed in a plastic bag as quickly as possible to prevent the spread to other articles and furnishings. There are several options for the control of an active infestation.

Airing and sunlight will kill larvae but the compromise is that sunlight will cause fading and embrittlement of the wool fibers.

Dry-cleaning is an effective measure for killing eggs, larvae and adult insects. However, the compromise is that not all dyes remain stable through this process, some natural oils may be lost, and a concern that dry-cleaned yarns often appear to be thin and flattened.

Most pesticides are known to leave a residual substance on the textile surface. This can cause staining, bleaching or change in the dye colors. An additional concern is the toxicity to humans and pets of the insecticide poisons that remain on the textile. Museums no longer recommend the use of mothproofing agents, as many of them contained arsenic.

Moth balls (paradichlorobenzene or naphalene) are still commonly available and are effective for pest control. A compromise to consider is that the heavy vapors may recrystallize on the surface, that many dyestuffs experience color change and fading, and that certain types of wool may dull and yellow. Never place these products directly on a textile. Collectors should be aware that frequent exposure to these chemicals can cause glaucoma and liver problems in humans.

The Arizona State Museum recommends the freezing method to control insect infestations in artifact collections. The museum was first to utilize this technique which has come into common use by museums throughout the world. The process involves: 1) containment of the textile in a plastic bag and removal of as much air as possible before tying the bag closed (the bag contains the infestation and prevents condensation on the textiles when it is removed from the freeze), 2) placement of the bagged textile in a freezer that is capable of going down to below freezing, at least -4° F, (a chest freezer is preferred as the critical low temperature remains more consistent), 3) freezing the textile for 48 hours (the door to the freezer should not be opened during the process as this will upset the temperature). 4) after



removal from the freezer the plastic bag should remain closed until the textile has reached room temperature (condensation will form on the outside of the plastic bag rather than on the textile), 5) the process should be repeated to insure that the insect egg, larvae and adult stages have been killed, and 6) after final removal from the plastic bag the textile should be carefully vacuumed to remove insect debris. This non-chemical process is very effective and is safe for Navajo textiles.

## REPAIR AND REWEAVING

All treatments of repair and reweaving should be documented with a report and illustrations or photographs. This record of the before and after condition is very important and should be kept with the textile even if ownership changes. Collectors should be aware that examples of traditional wear on textiles may be a mark of history and enhance the value. Examples of use-wear in a wearing blanket might include losses along the grip areas of an edge, shoulder pulling, tattered corners from dragging, abrasion and soiling of the buttocks, elbow holes, and shoulder stretching. Evidence of belt use on a dress knee abrasion on a kilt, or the stressed areas on saddle blankets may also be noticeable. The decision to repair or reweave depends a lot on the history of the textile, the type of damage that has occurred, and the type of use that is expected. Professional textile conservators generally prefer to stabilize what is remaining of the piece without adding significant amounts of new material (The American Institute for Conservation can provide a referral, 202-452-9545). Textile restorers may be familiar in matching dyes and yarns so that a nearly invisible reweaving is possible and can provide sufficient reconstruction so that the textile can continue to be used as a rug rather than decorative textile (Museums that display Navajo textiles or sell modern examples in their gift shops may provide local referrals). Navajo weavers that offer repair services may add a cultural authenticity to the repair (Traders and Dealers in Navajo textiles may provide referrals).

## DISPLAY

Navajo textiles should have limited exposure to the agents of deterioration (light, high temperature, fluctuating relative humidity, air pollutants, dust, insects, and rough handling). It is best to alternate display and storage time through a rotation system. If the textile is intended to be used as a rug and is placed on the floor, an uncolored pad should be used in addition to rotation and regular vacuuming on both surfaces. Food stains and staining from contact with metal objects such as chair skids should be considered as they may eventually cause changes in texture, pH, and color.

Choosing to hang a Navajo textile requires the consideration of several factors including the type of textile yarns and structural condition of the specific textile. Hanging minimizes many forms staining and wear but, because hanging a woolen textile for extended periods of time will result in stretching and distortion, it is important to limit the hanging time. Three to four months at a time is recommended. Also it is generally advised to hang a textile with the warp threads in the vertical position as they are generally stronger.

The Velcro™ method of hanging is used by the Arizona State Museum. A 1 ½ to 2-inch Velcro strip (without adhesive) may be used with a piece of backing fabric (unbleached cotton muslin that has been thoroughly washed, rinsed, dried and ironed is a good choice). The process includes the following steps:

1) machine-stitch the soft-side of the Velcro strip to the doubled-over end of the backing fabric, 2) hand-stitch the Velcro-ed backing fabric to the Navajo textile. It is important to pass the sewing threads between the textile yarns to avoid cutting or splitting them, 3) the hook-sided Velcro strip may be stapled or nailed to a wooden batten or board, finally, 4) the two Velcro strips can then be pressed together allowing the textile to hang. It may be necessary after a few days to adjust the backing fabric by separating and realigning the Velcro attachment at the wall so that it conforms to the drape of the textile.

It is important to remember that this is considered a temporary mounting system. To remove the backing: cut the hand-stitched threads from the back and remove them with tweezers by pulling long threads out that they do not cut through the yarns.

Hanging a Navajo textile directly to the wall using nails or only the hook-sided Velcro with the textile itself is not recommended. Repeated removal and re-attachment can loosen yarns, disfigure the yarn structure, and can cause structural damage.

#### VELCRO SUPPORT SYSTEM

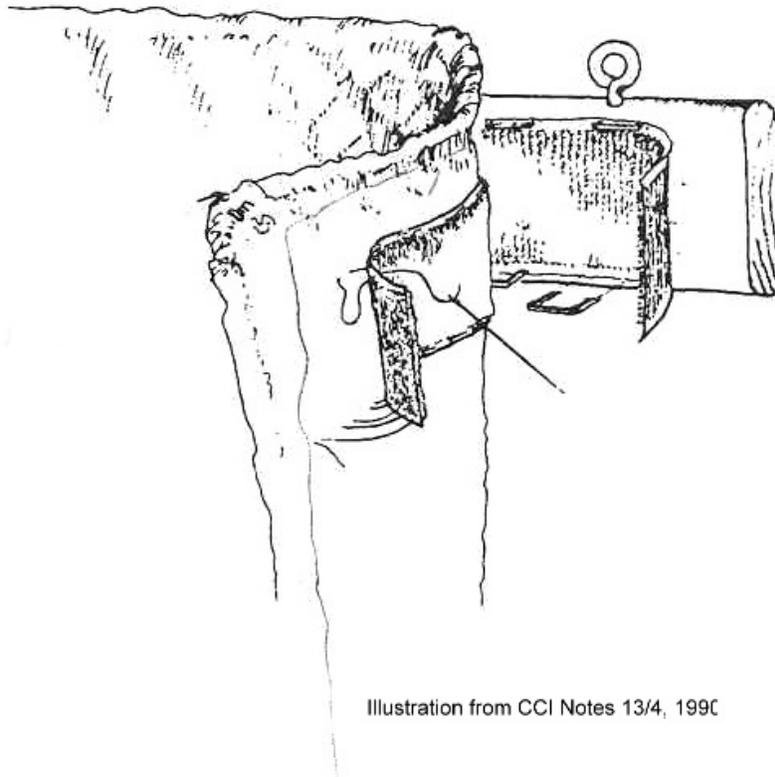


Illustration from CCI Notes 13/4, 1990

## STORAGE

It is advised to remove mountings when the textile is going to be stored for a long period of time. If it is small enough, storage in a flat position is best. If the textile is large, then rolling is the best alternative because folds will eventually cause fibers to weaken or break (folds should never be ironed out). A cardboard tube that is made of archival, acid-free cardboard or a standard cardboard tube that has been covered with aluminum foil, Mylar™ (a polyester film), or polyethylene plastic may be used. The textile should be carefully rolled in the direction of the warps. Coverings made of Mylar™, Tyvek™ (an olefin-based fabric) or washed muslin may be used over the rolled textile to provide protection from dust and grime. The ends of the roll should be left open so that air is allowed to pass. Cotton twill tape may be used to loosely tie and secure the roll.



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