The Care and Preservation of

BASKETRY

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Introduction

Basketry can be maintained for years of use and enjoyment provided that some basic care and attention is given to its preservation. The conservation staff at The Henry Ford have compiled the information in this fact sheet to help individuals care for their objects and collections. The first step in the care of collections is to understand and minimize or eliminate conditions that can cause damage. The second step is to follow basic guidelines for care, handling and cleaning.

The technique of basketry predates cloth weaving and continues to be practiced today. Baskets have been used for industrial, agricultural and housekeeping in the form of containers and furniture, but most private collectors and museums acquire, and display crafts produced from Native American, Asian, and Oceanic cultures. Unlike textiles, baskets do not require the aid of a device like a loom for production. Tools such as a sharp knife, a driving iron and a pair of hands are helpful to create both simple and intricate woven structures. Baskets are typically functional objects interwoven using organic (plants, woods, seeds, fur, leather) or inorganic (plastic, wire) materials. They can be waterproofed using shellac, clay, lacquer, or pine pitch. Baskets are often decorated with dyes, coatings, beads, feathers, and many other materials.

Many natural history and anthropology collections of the 20th century were treated with organic and heavy metal pesticides which are very toxic for humans. Proceed with caution if the history of the collection is unknown and refer to a professional conservator for guidance.

Types of Damage

For most basket owners, there is the desire to both utilize their collections and at the same time preserve them. These two objectives are often at odds with each other. The primary causes of damage to basketry are the storage/display in inappropriate environments and careless handling. Excessive exposure to light, high and/or fluctuating temperature and humidity levels, dirt and insects also cause harm to the life of basketry.

The most common cause of damage to basketry is due to careless handling. Most basketry was made to be used often but due to physical stress, light and changing environmental conditions, their functional use diminishes, and they become extremely fragile. Some objects have rims or handles which become weak over time, especially at the joins. Flat basketry that is flexible can start to distort and deteriorate as the fibers lose their strength.

Plant materials such as basketry are susceptible to light damage which is cumulative and irreversible. Light accelerates embrittlement of components in the basket fibers and causes fading. Since plant materials are porous, baskets readily absorb water when humidity levels are high. This absorption causes swelling and warping that leads to breakage of the woven fibers. Older and more fragile objects are at a greater risk. Extremely humid environments can also cause color changes and tide lines due to migration of soils and acidic by-products within the fibers. Mold is encouraged by high moisture and will grow on basketry, causing discoloration, embrittlement and structural damage. Dyes and paints can bleed into surrounding areas of the basket. Low humidity levels as well as high temperatures can cause loss of moisture in fibers, resulting in embrittlement. Aside from the unsightly appearance of dirt and dust on basketry, both serve as hosts for mold growth and absorb pollutants, obscuring surface detail. Dirt and dust can embed into the fibers, abrade these materials and accelerate degradation. Proximity to smoking areas, cooking areas and fireplaces can deposit nicotine, grease and soot on and in the basket. Make note if some of

this dirt and debris is part of the object's history of use and not more recent damage causing unnecessary harm. Seeds and other debris may need to be retained.
Rodents and insects can cause damage to basketry by using the objects for nesting or consuming the plant-based material for food. Powder post beetles characteristically bore small holes (approximately 2 mm in diameter) into plant materials. These holes, along with frass (excrement that looks like saw dust) and larvae casings left behind are signs of active infestation.

Storage
The proper display and storage of basketry can be achieved by monitoring the environment in various rooms to identify the best area for the objects. Store basketry objects in their natural orientation so as not to stress joins on handles and rims. The objects should be adequately supported with mounts, acid-free tissue stuffing, and/or archival boxes. Overstuffing a basket is not advised as it stresses the weaving structure, causing fiber breakage. The tissue mainly provides protection from interior dust and gives some internal support. Boxes can be purchased pre-made in designated sizes or constructed with acid-free board or stable plastic to the size and shape that best fits the storage space. Padding the box with Ethafoam and acid-free or acid-free buffered tissue is recommended to support the object. Flat basketry should be secured to support boards lined with washed cotton muslin and twill tape ties. Dust covers and closed cabinets are other ways to protect from dust and light but must allow for air circulation to inhibit mold growth. Record any losses of fibers or pieces of the basket. If these pieces are still with the object, place them in a labeled, clear bag and store with the object. Protruding fibers in danger of being damaged can be gently tied down with cotton tape or thread.
Acceptable temperature and humidity levels for basketry are as follows, keeping in mind that fluctuations should be kept to a minimum. Continual and extreme environmental fluctuations can lead to permanent damage. A relative humidity (RH) of 40-60% is recommended but can be difficult to maintain without a humidifier to help with seasonal fluctuations. A high RH will swell fibers and extra moisture encourages mold. A temperature of no more than 75 degrees F (25 degrees C) is recommended. High temperatures and low RH increase chemical degradation, causing embrittlement of basketry. Radiant heat from direct sunlight or spotlights can raise the temperature of surfaces on storage shelves.
Deterring extreme light exposure starts with the building. Cover and separation from the outdoor weather, sunlight, pests and vandalism are basic levels of protection. Monitor basketry in both storage and display areas. Baskets should be displayed no more than four months at a time and in low light levels in order to slow the process of degradation. The suggested light level for dyed baskets is 50 lux. Undyed basketry can be exposed to light levels slightly higher at 150 lux but following the lower light level across the board is best practice. Utilization of UV filtration of light sources or LED bulbs is recommended to inhibit fading. The suggested UV level for basketry is below 75 µW/lm. UV filters such as films or glass are placed on windows and used for display cases. Glass filters can be placed on spotlights and mounted at least 10 feet from the object to avoid potentially damaging heat buildup. Light meters and museum UV meters are handy tools to use for monitoring exhibit and storage areas.

Handling
When handling basketry, be sure to remove all jewelry, belt buckles, etc. and be mindful of buttons and zippers that can catch on fibers and cause damage while being moved. Never lift a basket by its handles or rim. Do not wear cotton gloves when handling as they tend to snag on fibers. Clean hands or nitrile gloves are preferred. If handling objects with cultural concerns, check to be sure that gloves are acceptable. Always use two hands to carry an object and support it at its base. When moving more than one object or traveling a distance within the building, use padded trays,

boxes, and carts to safely transport the objects. Large baskets should be lifted not dragged. Storage in an archival box makes for easier transport. Be aware of surroundings and plan ahead when moving to ensure no furniture with sharp corners could bump the basketry and doorways accessible.

Cleaning and Care

In general, the cleaning of basketry should be left in the hands of a trained conservator. However, there are some simple procedures that can be followed to increase the longevity of a basket. Ensure the basket is in good condition before cleaning. Place the object on a clean table or table covered with a fresh layer of paper, fabric or Tyvek paper. Soft brushes can be used to remove surface dirt from the object, directing it towards a HEPA-filter vacuum with low suction. When dusting a basket care should be taken to keep the vacuum at a distance from the object to control suction and not detach fibers or decorative elements. Gauze or a mesh window screen secured to a vacuum nozzle is recommended to filter for these small elements (see image below left). Micro-attachments that are used to clean computer keyboards are also an effective tool for cleaning baskets (see image below right).

Dirt that cannot be removed by brush and vacuum may be reduced with a vulcanized rubber sponge known as a dry-cleaning soot sponge or dry eraser. These brick-sized sponges can be cut into smaller shapes as necessary. Test small, inconspicuous areas of the surface to ensure the dirt can be removed and no loss of colors occurs. Gently rub the sponge onto the surface of the

basket, noting if any damage to fibers occurs and if dirt is removable. If surface dirt cannot be removed by dusting or soot sponge, cotton swabs that have been dampened with distilled water can be lightly rolled on the surface to remove dirt. Be sure not to over dampen the surface which can cause swelling and warping of the fibers. Again, if there is any significant physical damage to the basket, no attempt at cleaning should be made and consult a trained conservator.
Basketry should be routinely examined for pests and mold. If infestation is found, the object should be placed in a plastic bag and isolated until it can be examined by a professional conservator.

Disaster Response
Unfortunately, basketry is very susceptible to many types of disaster, including fire and flooding. In the event of salvage after a situation involving water, be it flooding or the results of putting out a fire, the basketry objects should be removed to a drier place until a conservator can address the damage. Moisture built up can cause mold contamination. Be sure to wear the proper personal protective equipment when handling moldy basketry before isolating them in a cool, air circulating area to dry out. It will be necessary to monitor the objects as they dry, as the drying process may cause embrittlement. Further discussion on salvage and disaster response can be found in The Henry Ford's conservation information sheet on that topic, and in various online resources.

SUPPLIERS

Monitoring Equipment and Cleaning Supplies: Visible Light Meter, UV Light Meter, Humidity Indicators, *Ethafoam, Dry Cleaning Soot Sponge*

- University Products

https://www.universityproducts.com

- Talas
  https://www.talasonline.com

Packing & Storage Supplies: Twill (cotton) tape, archival boxes, Tyvek paper, Unbuffered, acid-free tissue paper

- Uline

https://www.uline.com

- University Products

https://www.universityproducts.com

- Talas
  https://www.talasonline.com

HEPA Filter Vacuum

- Nilfisk

https://www.nilfiskcfm.com

Micro-attachments

- https://www.globalindustrial.com

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Rosenfeld, Scott. "How to Change A Lightbulb: LED Lighting for Museums". Connecting to Collections Care webinar, November 21, 2019.
Zycherman, Schrock. The Museum Guide to Pest Control. Foundation of the American Institute of Conservation, 1988.

For Information of the Storage of Fragile Objects:

https://stashc.com/

Ethafoam support: https://webfiles.tol.ca/museum/baskets/images/conservation002.jpg

Rigid support with twill tape: https://www.canada.ca/content/dam/cci-icc/images/services/preventive-conservation/guidelines-collections/caring-for-basketry/figure-37.jpg

To Find a Conservator:
The American Institute for Conservation

https://www.culturalheritage.org/about-conservation/find-a-conservator