Preservation Essentials

Assistant Editor: William Modrow, Walter Havighurst Special Collections, Archives, & Preservation, Miami University. Please contact me at modrowwm@miamioh.edu if you would like to author a column or want to share ideas for future columns.

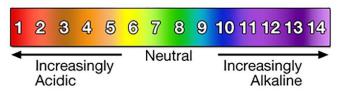
From Chaos to Order, Part I: Making Artifact Storage Work for You

By Sonya Barron, Collections Conservator, Iowa State University, Cassandra Anderson, Preservation Services Student Assistant, Undergraduate Student, Iowa State University

Storage of three-dimensional artifacts can be an overwhelming task, but it does not have to be. In this article, we share some simple tips to help you take care of the artifacts in your collections. Any small improvements that you make in this area are beneficial and worth doing.

First, let's define some terms that archival suppliers use to describe their products. Most paper-based products for archival storage are buffered. That means that the board or paper they are made of has an added calcium reserve to absorb acid. Paper, board, and wood become increasingly acidic over time, so the alkaline buffer is meant to absorb that extra acidity. Archival paper products are buffered to a pH of approximately 8.5 to 9. Unbuffered means pH-neutral, with a pH of 7 to 7.5. Anything below pH 7 is acidic. When something is marketed as "acid-free," it means that it's not acidic, which implies a pH of 7 and up.

Numerous challenges must be faced when dealing with housing and preservation of three-dimensional artifacts. Artifacts are often made from multiple materials, making



pH scale

them composite objects, their shapes and sizes anything but standard. To simplify this variety, let's divide up the physical materials they are made of into a few distinct groups.

- Plant-based materials are made of cellulose and include paper, board, wood, cotton, and linen.
- · Animal-derived, or proteinaceous, materials are made up of collagen and include silk, wool, bone, hair, and leather (such as a saddle, moccasins, or a purse).
- Metals can include silver, iron, lead, nickel, brass, and bronze.
- Natural history samples include herbariums and



insect collections, as well as taxidermy.

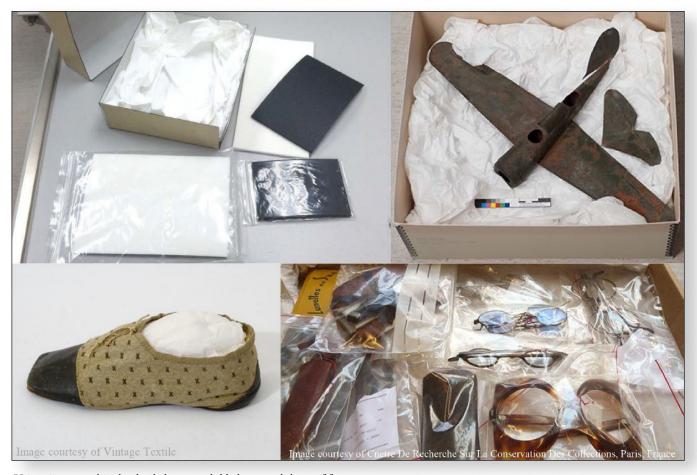
• Plastics and rubber are synthetic materials. They undergo a different chemical deterioration process.

It is best to use unbuffered boxes and tissues for proteinaceous materials and for metals. Buffered boxes and tissues are okay to use for plant-based materials. It may prove useful to label your unbuffered supplies with a stamp or in pencil. That way you can be sure of what you are using. Old plastics and rubber can be put in resealable archival polyethylene bags, which are made from nonrecycled plastic. Cool and dry storage is particularly important for plastics and rubber. Polyethylene and polypropylene bags are appropriate to use for all types of artifacts. If your object needs extra support, you could slip a sheet of Volara foam or Ethafoam into the bag and place the object on top of the sheet of foam. Most three-dimsenional objects need individualized support within a standard-sized archival box. The fastest fix is to use folded or balled up tissue to pad out the box.

It's preferable to organize a collection of small items into easily accessible and stationary groups. Lots of little boxes shifting around inside of a big box is neither safe nor practical. You would need to move or to open many boxes unnecessarily to find a particular item. It is possible to buy large archival boxes with lids and differently sized compartments to accommodate individual items. These compartments may be adjustable or may require extra modifications.

Ethafoam or Volara foam can be used to line the bottoms of box compartments and to make small spacers for a snug fit. Housing small items in uncovered compartments enables you to view the entire collection together, which makes it easier to show to visitors. Ethafoam blocks can be used to create shallow cut-outs for objects to lie in. Once the cut-out is made, it can be lined with Teflon film. Smooth and slightly stretchy, this can protect artifacts with fragile, flaking, or powdering surfaces from abrasion.

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Using tissues, archival polyethylene resealable bags, and sheets of foam

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Large-scale artifacts can be challenging to accommodate in the stacks. Many items are too big to be boxed. Such objects can be placed on platforms made of archival corrugated board with small spacers and cotton twill tape holding them in place. The entire platform needs to remain more or less horizontal. The spacers and ties help prevent the artifacts from shifting when they are moved. The housing of parasols in the photo on page 39 features a combination of techniques—Tyvek lining for fragile surfaces, cotton twill ties for security, cut-outs in Ethafoam for the parasol tips, and irregularly shaped walls constructed from corrugated board for a custom fit. Every bit of space in the drawer is utilized.

It is best to unframe framed items and store them in folders. If you must keep your items inside their frames, it is best to stack frames vertically within defined compartments. Frames can be interspersed with pieces of corrugated board or Coroplast, which is similar but made from archival plastic. Shelf compartments can be lined with sheets of

1/8-inch Ethafoam to avoid getting starched up during retrieval.

Nearly flat objects, like fans, can be stored in a cut-out of Volara foam. Ethafoam rings or blocks can support pottery and baskets. Many large items can be stored directly on the shelves in the stacks, aided by a variety of supports such as dummy shapes and board pedestals or shallow trays with Ethafoam spacers. To avoid dust, you may choose to drape large artifacts with unbleached, unstarched muslin.

When your artifacts are covered up by muslin or are stored in boxes, it can be helpful to add visual ID tags. You can add a photo of the object to its ID tag or attach the photo to the outside of the box. That image will help you make a quick connection to the object. Knowing what is inside the box may influence the way you choose to handle the item.

Textile objects come in many shapes and sizes: garments, rolled oversized textiles, decorative objects. Small, flat textiles can be rolled in soft unbuffered tissue and stored



The advantages (easier display, less abrasion) of using Teflon film (left and lower right) over balled-up tissue (upper right)

in archival roll boxes. It is important to use very soft tissue that does not tent and crinkle. Textile surfaces are often too fragile to be in contact with sharp, pointy edges. Rolled textiles can also be covered in unbleached, unstarched muslin, which is helpful for oversized rolls that are too big to box, to protect against dust. Textiles rolled on tubes can be hung on metal rods attached to a rack with hooks, or they can be propped up on Ethafoam blocks with slots cut through them.

When boxing a historic garment, it is best to pack it with softly balled tissue to add some dimension and to support the fabric. Parts of the garment can be gently folded under to fit into the box. Some boxes feature a sling to help lift the garment out of the box. Padded hangers are appropriate for garments in stable enough condition to be hung: if the stitching can handle the weight of the garment and the fabric is not stretchy. Polyester batting, often used for making quilts and pillows, can be inserted into

nonsterile cotton stockinette to pad out the hard edges of a hanger. Aside from padded hangers, you can construct any other kind of pillow shape to support a textile within its box. Cotton stockinette and polyester batting can also be made into batting snakes, which can be shaped into support rings for baskets and pottery. You can safely and carefully set an object with a rounded base into the soft, donut-shaped pillow and expect it to stay put.

Fun ways to go about housing your artifact collections abound. While the task may seem daunting, we hope that this article has shed some light on your housing projects. For more information on archival housing solutions for both artifacts and paper-based collections, check out the complete PowerPoint presentation "From Chaos to Order: Making Artifact Storage Work for You," with text in the notes field, which was given at the 2017 MAC annual meeting in Omaha, Nebraska.1

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Examples of housing solutions for large artifacts

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Note

1. Sofia (Sonya) Barron and Hilary T. Seo, "From Chaos to Order: Making Artifact Storage Work for You" (presented at the MAC Annual Meeting, Omaha, NE, 2017), http://lib.dr.iastate .edu/pres_conf/2.



Options for housing small artifacts



Housing solutions for a variety of textile objects