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## Preservation Is Common Sense: Practical Tips for Government Documents Collections

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### Introduction

When I looked at the program and saw that the great majority of the sessions cover electronic information dissemination, I worried that my presentation might be a little out of synch with the overall conference theme. You can imagine how heartened I was to hear David Cobb, Head of the Harvard Map Collection, emphasize in his talk this morning that while electronic information can provide terrific access, it is only a preservation format to the extent that it reduces use of the original.

The focus of my talk is not the preservation of electronic formats, but rather the preservation of the many other, more traditional formats that comprise our collections. How many of you have paper in your collections? Magnetic media? Microformats? LPs and CDs? Photographic materials? I see that most of you do.

How many of you are involved in the following activities?

- processing materials
- shelving materials
- repairing books
- binding periodicals and monographs
- circulating materials

Once again, I see that the answer for most of you is "yes." I'm going to talk about how you can integrate preservation into routine, ongoing activities by modifying how they are done--with an eye to the long term impact on collections. You don't necessarily have to hire new staff or spend a lot of money to preserve your collection. There are practical, inexpensive

things that you can do to prolong the useful life of the formats that are in your library's collection.

The first nine items on the following list comprise the traditional elements of library preservation programs. Notice that I have a question mark after "digitization." I can't emphasize enough that it won't be a preservation format until standards for data refreshment and migration are developed **and** widely adopted.

### Elements of Preservation

- Shelf preparation
- Stack maintenance
- Environmental control
- Disaster preparedness and recovery
- Security
- Staff and user education
- Library binding
- Replacement and reformatting
- Collections conservation and conservation treatment

Digitization(?)

Today, I'm going to focus on four of these elements: shelf preparation, stack maintenance, the storage environment, and library binding. I'll focus on common-sense, no cost or low-cost preservation measures. My co-presenter, Tom Clareson, will cover disaster preparation and recovery.

I'll begin by giving you a definition of preservation. It is:

*The sum of the activities a library or archive undertakes to **maintain** its collections in **useable** condition for as long as they are **needed**.*

So you can see that whatever steps you take to prolong the useful life of your collections constitute preservation.

The tips that I'm going to discuss apply to existing activities, existing workflow, and to circulating collections. The first and best tip I can give you is this: **We need to stop actively abusing our collections.** How do we do this?

- Eliminate or improve book drops
- Improve shelving practices
- Improve handling practices
- Change your library binding profile
- Monitor and improve the storage environment
- Change repair supplies/practices.

Before I go any further, we need to review the three major factors that affect the longevity of collection materials:

## 1. The chemical and physical composition of collection materials:

Collection materials are made up of organic matter and all things that are organic deteriorate over time. Organic materials have what we in preservation call inherent vice. What this means is that the resistance of an article to degradation is built into it at the time of manufacture; it is part of its nature.

Consider, for example, the paper-based materials in your collections. Many of them are deteriorating, right? The inherent vice is the acidic components (e.g., ground wood pulp, chlorine bleach) that are part of the manufacturing process. Currently, some GPO documents are printed on recycled paper, but that paper is not yet consistently acid-free or alkaline, so acidic paper and its associated problems will continue to be part of your documents collections.

## 2. The storage conditions which they are subject to:

Providing an adequate storage environment is the single most effective means of extending the life of a collection.

## 3. The type, intensity and amount of handling materials receive from staff and patrons.

Because we know that often we're dealing with less-than-sturdy, complex materials, it is important that we handle the materials carefully. Consider it cost-effective resource management.

### **Care and Handling Tips for Paper-Based Materials**

Preservation concerns begin as soon as material enters the library. In fact, in order for depository libraries to comply with GPO regulations, shipping materials (e.g. rubber bands, shrink wrap, mailing tubes) must be removed from materials prior to shelving. The rolled material should be stored flat. Rubber bands must be removed because they emit sulfuric acid as they age, and the acid is damaging to collection materials. Just taking these simple, common-sense steps will contribute to prolonging the useful life of your collections.

Staff should be trained to recognize potential problems; to examine all material on arrival to identify problems that might lead to rejecting it; and to flag material for treatment so that problems (e.g., the pages pop right out of the binding) can be remedied before they get worse.

### **Shelf Preparation**

When processing materials for the shelf, the following tips will help reduce potential damage to collection materials.

- Don't stuff bulky papers or cards between the endpaper and cover as this will damage the binding. Instead, tie the papers to the outside of the cover with a piece of cotton tape. Don't use rubber bands!

- Be careful when applying security strips (3M Tattle Tape®). For example, don't place double-sided adhesive Tattle Tapes in the center of a periodical signature! The pages may stick together and information near the margin will be unreadable.
- Place the date due slip on the flyleaf, not on the cover of the book. Placement there will minimize damage to the book's binding when the due date is stamped on the slip.
- Use non-harmful supplies such as non-acidic adhesives to affix loose plates, pockets, bookplates, etc. Do not use rubber cement!

The resource list that I've provided includes several catalogs that offer "preservation-approved" supplies such as non-acidic adhesives and cotton tape.

### **Stack Maintenance**

Library collections spend the majority of their existence sitting on shelves, so the conditions they are subject to there have a great impact on their longevity. Much damage can be avoided by training the shelvers to use proper techniques. Heavily-used areas of the stacks should be given extra attention. Heavy volumes should be shelved upright, and adequately supported with bookends. If you lack adequate storage for oversized volumes, do not shelve them on the fore-edge. Over time, the force of gravity will pull the pages out of the cover and the volume will need to be repaired or rebound. Instead, change the location of the call number or SuDoc label to the upper right-hand corner of the front cover and shelve the volume on its spine. Common-sense shelving practices can save money by reducing both repair and library binding costs.

### **Care and Handling Tips for Non-Print Formats**

#### **Magnetic media**

- Avoid tape erasers, storage near electric lines, fluorescent lights, magnets, electrical nodes.
- Store vertically, supported on both sides.
- Replace the original boxes with non-harmful containers.
- Make back-ups and migrate to newer formats.
- "Exercise" videotapes every 6-12 months.
- Store videotape in the "played" position to minimize print-through and sticking.
- Never play the masters! Make use copies.

#### **LPs and CDs**

- Store vertically, supported top to bottom, front to back, and handle by the edges.
- Clean LP's in a circular motion NOT across the grooves.
- Clean CD's across the grooves.
- Clean both with clean, soft, lint-free cotton velvet cloth.
- Keep playback equipment clean and in good condition.
- Minimize exposure to light.

- Use appropriate storage containers. Check the catalogs on the resource list!
- Keep spare needles on hand for record players.

### **Microformats**

- Handle film and fiche by the edges; oily finger prints will damage the film's surface.
- Store in non-acidic, unbuffered boxes and envelopes.
- Keep reading equipment clean and in good condition to avoid scratching and abrading the film's surface.

### **Photographic Materials**

- Handle by the edges; oily fingerprints will damage the surface of prints and negatives.
- Limit light exposure for color and early black-and-white prints.
- Store and display prints using acid-free, unbuffered materials.
- Store prints and negatives separately in acid-free, unbuffered sleeves.
- Check the supply catalogs on the resource list for appropriate storage and display materials.

### **Environmental Control**

Remember, this is the least expensive per-item preservation strategy. It is the single most effective means of extending the useful life of a collection. I'm going to talk about temperature and relative humidity (RH) "ideals" for circulating collections. The recommended standards outlined below can be difficult to maintain; the main thing to remember is to avoid fluctuation in temperature and RH.

High temperature can hasten embrittlement and accelerate deterioration by increasing the speed of chemical reactions. All organic materials containing moisture respond to the ambient moisture content by changing shape or size. Absorbing and expelling moisture accelerates the deterioration of collection materials. High relative humidity also accelerates the chemical reactions that cause deterioration, and it encourages mold growth and pests.

Molds common to paper and books will flourish in conditions above 70% RH. Low relative humidity can cause desiccation and embrittlement. So maintenance of stable temperature and RH will contribute to prolonging the useful life of collections. Consider this: all other conditions being equal, a paper-based collection stored at 60 degrees F will endure **twice as long in usable condition** as one stored at 78 degrees F.

#### **Recommended temperature and relative humidity for circulating paper-based collections:**

68-72 degrees F and 40-55% RH

#### **Recommended temperature and relative humidity for use collections of microformats, magnetic media, LPs and CDs:**

70 degrees F and 50% RH

### **Recommended temperature and relative humidity for circulating collections of photographic prints:**

< 70 degrees F and 35%-50% RH

Some practical solutions for maintaining a proper storage environment include:

- Turn off lights when the area is not in use.
- Close blinds or curtains.
- Avoid fluctuations in temperature and relative humidity.
- Use portable dehumidifiers as necessary.
- Improve air circulation with fans.
- Make sure existing systems are functioning properly and are maintained (e.g., air filters are changed on a regular basis).

### **A Few Words about Photographic Negatives:**

Cellulose nitrate was the film base used between 1889 and 1939. It is extremely flammable (call the Fire Department to handle any you have in your collection) and should be copied immediately onto polyester-based film. Cellulose acetate has been used since 1932. When it degrades it emits a strong vinegar smell. Copy degraded acetate film onto polyester, which is the most stable film base. It has been in use since the mid-1960's.

- Store negatives separately from prints.
- Keep in mind that color negatives are unstable and should be kept in cold, dark storage (39 degrees F).

### **Library Binding**

How many of you have had formal instruction, either through workshops or in library school, on library binding? Have any of you ever toured a library bindery? I'm not surprised that many of you have not. Library binding is an activity that we do need to pay attention to and learn about because it is likely one of the largest line items in your materials' budget. For many institutions, it is the largest amount of funds spent on a preservation activity. Along with the environment, it widely affects the physical condition of volumes in our collections. With my very brief introduction to one aspect of it today, I hope to set you on the road to becoming better consumers of library binders' products.

First of all, you need to understand **leaf attachment methods**, the processes that fasten the leaves (pages) to each other to form a text block. The leaves are attached with adhesive or with sewing thread. Drawings of leaf attachment methods, along with more detailed descriptions, can be found in the Library Binding Institute Standard for Library Binding, 8th ed., and the Guide to the Library Binding Institute for Library Binding cited on the resource list.

There are advantages and disadvantages to each type. When choosing one, the most important thing to consider is whether or not it is appropriate for the volume that needs rebinding or for the binding unit that needs first-time binding. Keep in mind how the bound volume will be used. A brief description of leaf attachment methods follows.

## **Recasing**

This is an option that library binders provide, but it is not actually a leaf attachment method. Recasing is a good choice when a volume with a sewn textblock, with the sewing intact, needs a new cover. None of the inner margin is lost with recasing.

## **Sew-through-the-fold**

This leaf attachment method can be done by machine or by hand. The library binder may choose hand-sewing instead of machine-sewing depending on the limitations of the machinery, and on the thickness of the paper. The most likely candidates for this leaf attachment method are periodical issues that are published in single signature formats, such as Time or Newsweek. Volumes that have been sewn-through-the-fold are easy to read and photocopy because they will lay flat when open. None of the inner margin is lost with sewing-through-the-fold.

## **Double-fan adhesive**

This method is appropriate for both monographs and periodicals with single sheet pages (i.e., not in signatures). The spine is milled to ensure that all of the page edges along the spine are in single sheet format. Notching of the spine may be done to increase surface area for adhesion, particularly for coated paper. The text block is fanned in one direction and a layer of adhesive is applied, then fanned in the other and another layer is applied. The quality of the adhesive is very important. The current Standard specifies the use of PVA (polyvinyl acetate), a non-acidic adhesive that does not become embrittled with age. Double-fan adhesive bound volumes have minimal margin loss, and are easy to read and photocopy because they lay flat when open.

## **Oversewing**

This method is used to sew single sheets together into a textblock. Oversewing has a negative impact on a volume's flexibility, on how well it opens and stays open. It requires at least 5/8 of an inch of inner margin; how many monographs and periodicals have you seen with an inner margin this generous? The paper along the inner margin is perforated (and weakened) by the needles and thread during the process, and the sewing structure intrudes so far into the margin that it is virtually impossible for the volume to lay flat when open. It is a secure method of leaf attachment that can be used when the textblock is two or more inches thick. But there is a more user-friendly, preservation-approved option: split volumes thicker than 2 inches into two binding units and have them double-fan adhesive bound. The result will be volumes that lay flat when open so they are much easier to use and will suffer less damage at the photocopier!

## **Sidesewing**

You often see this leaf attachment method used in children's books. It is suitable for textblocks less than 1/2 inch thick. Like oversewing, it perforates the binding edge and requires a substantive 3/4 inch inner margin. Sidesewing reduces flexibility and makes volumes difficult to use because they will not lay flat when open. Here again, double-fan adhesive binding is the preferred option both in terms of preservation and the library user.

I've barely touched the tip of the iceberg in terms of library binding. Additional factors that affect the useful life of collections include rounding and backing, endpapers, book boards, book cloths, spine linings, etc. These processes and materials are defined in the library binding publications on the resource list. I encourage you to look at them. I should mention that the 9th edition of the Standard for Library Binding is currently in the works but I don't know the expected publication date.

I hope that you can now see that preservation is not necessarily an expensive or elaborate set of activities that only really big institutions need or can afford. Much of it really is just common sense.

### **Brief Resource List**

#### **Supply Catalogs**

The following suppliers offer a wide range of preservation-quality supplies:

Gaylord Archival Storage Materials & Conservation Supplies

To order, call: (800) 448-6160

To speak with a professional conservator, call the Preservation Help Line Thursdays and Fridays: (800) 423-3631

Light Impressions: good resource for materials for photographic storage

To order, call: (800) 828-6216

University Products Archival Quality Materials

To order, call: (800)-628-1912

#### **Further Reading**

Merrill-Oldham, Jan and Paul Parisi. Guide to the Library Binding Institute for Library Binding. Chicago: American Library Association, 1990.

Parisi, Paul A. and Jan Merrill-Oldham, ed., Library Binding Institute Standard for Library Binding. Rochester, NY: Library Binding Institute, 1986.

St.-Laurent, Gilles. The Care and Handling of Recorded Sound Materials. Washington, DC: Commission on Preservation and Access, September 1991.



Rempel, Siegfried. *The Care of Photographs*. New York, NY: Nick Lyons Books, 1987.

Van Bogart, Dr. John W. C. *Magnetic Tape Storage and Handling: A Guide for Libraries and Archives*. Washington, DC: Commission on Preservation and Access; St. Paul, MN: National Media Laboratory, June 1995.