

News

Mold Fighting on a Tight Budget

—by Janet Brennan Croft

Invasion of the Spore Creatures

*L*ike most libraries, we have always had a little mold. Some comes from damaged gift books which were not discarded quickly enough and had the chance to affect other books in the collection. Some is simply a condition of being located in a hot, humid area. Circumstances for mold this past

summer just happened to be perfect for this low-level infestation to spread like, well, mold.

The library usually closes for three weeks between the end of summer school and the beginning of fall semester. This year the staff all happened to go out of town instead of staying in the area and stopping by the library occasionally. A severe thunderstorm during the break resulted in a power outage, a leak in one of the rooms on the upper floor, and a knock-out of one of the air conditioner [AC] units.

The building rests on a concrete slab with the library partially below grade making extra moisture hard to eliminate.

In addition, the maintenance staff person normally covering this building was absent, and since the remaining crew was busy getting the dorms ready, no one had time to check the library. We suspect that the clincher was that the building was power-washed in late July. In retrospect, the air began to have a clammy feel at about the same time but since the

air conditioner was on high the mold wasn't growing. Ultimately, a perfect environment for mold was created when the dark library's temperature increased during the power outage, remained high because of the broken AC unit, and no one was working or moving around.

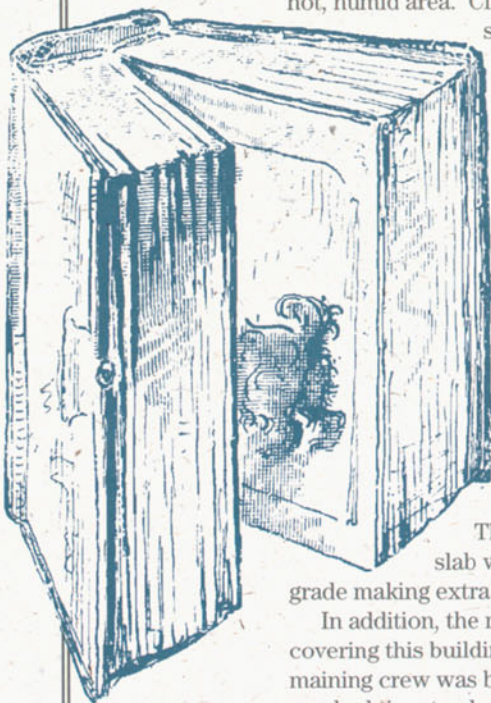
With classes starting in a few days, we had to move quickly with a limited budget to develop a way to remove as much mold as possible and render the rest dormant. Advice was sought from our library consortium, the state archives, and the Internet, but most of the information available dealt with major disasters involving extensive water damage.

What to do, what to do?

We were very fortunate that we did not have any water damage or flooding since wet or moldy papers would require professional help, and that the mold was confined to the bindings of our books. About 80% of the library's books were affected, but none were damaged beyond repair.

Unfortunately, the cost of hiring professionals to assess, contain, and repair the mold damage was beyond our means. The procedures we developed only cover surface mold damage. These procedures are also too rough for fragile or rare items but are adequate to get the general collection back into circulation.

Initially we made a record of the damage, took a tour of the library with a video camera, and set up a file folder for all articles, memos, correspondence, and notes on the topic. Although we did not have one available, a qualified person could be asked to take samples and test the different molds involved to find



Mold Fighting on a Tight Budget — cont. from page 1

out how dangerous they are. This will be useful if there are any health problems that might be attributable to the mold, or in case insurance will cover the damage. Administrators and/or board members must be kept informed since they may not be aware of how dangerous mold can be.

Next, we turned on the air conditioner full blast, lowered the humidity as quickly as possible, and set up the maximum capacity of portable fans operating 24 hours a day. We were careful not to point the fans directly at the books since this spreads mold around. We turned on the lights, opened the curtains, and exposed the books to as much light as possible. Although fading is a concern, mold will cause irreparable damage faster than sunlight. We also lowered the temperature. The humidity must be below 65% to cause most molds to go dormant. If that humidity level cannot be reached, maintain a temperature below 65° F until the relative humidity can be reduced. This was another time when good communications were essential. We discussed the reasons for the low temperature with the people most likely to be fielding complaints about it and displayed signs explaining the need for the cold environment.

Next, we removed as much dormant mold as possible in a first rough cleaning. We used a vacuum cleaner with a water filter that prevents mold spores from being vented back into the air and has a hose outlet below water level. I purchased a 16-gallon wet/dry Shop Vac™, and adapted it by running a 2-foot length of 1.5" diameter flexible tubing from the tank. I found 1/2 cap of Lysol™ to 6 quarts of water to be sufficient — any more liquid would cause it to bubble up too high and leak. Other water-filter vacuums, such as Rainbow™, also will work but are much more expensive.

[Editor's Note: The November 1995 *Abbey Newsletter* v. 19, #5, p.81, discusses results of a *Consumer Reports* test of vacuums and dust]

Wearing a good-quality pollen mask, rubber gloves, as well as eye and ear protection, I vacuumed the spines and tops of every book in the library with a brush attachment. It took me about 24 working hours to do all of our 40,000 volumes. In high-traffic areas, I spread them out and vacuumed the front and back covers as well. I emptied the vacuum tank outdoors in the sunlight frequently, and gave the vacuum a thorough cleaning when done.

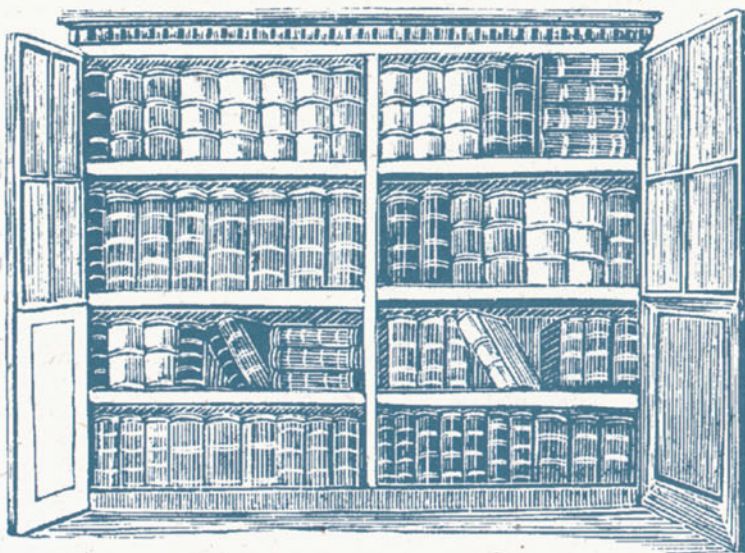
Next, we closed for two days and had the carpets cleaned, the floors washed, and the furniture scrubbed down with Lysol™. The carpet must be cleaned before it is vacuumed, unless the maintenance crew uses a vacuum with a HEPA filter. Curtains and upholstery may also need to be cleaned, walls washed down, and a check made behind posters and pictures.

The library was now reopened to the public while

we moved on to the most time-consuming part of the clean-up. Wearing a pollen mask and gloves, we removed a section of books to a cart, covered them with a plastic drop cloth to prevent spreading mold during transit, and then took them to tables set up outdoors. While they sat open in the sun for about fifteen minutes we cleaned the shelves with a Lysol™ solution.

As the shelves dried, we cleaned the books gently, brushing the mold off the entire outside as well as the hinges inside the covers with a soft paintbrush. A cloth is not used since this just ingrains the spores. Then with a rag lightly dampened with rubbing alcohol we gently wiped off the binding making sure to do all the edges as well as the flat surfaces. This was done with caution since rubbing alcohol may alter the color of some cloth bindings. We then cleaned the cart with Lysol™ and allowed the books to dry a few minutes longer before returning them to the shelves. The students we used to perform this task took about 30 minutes per shelf of books. Unfortunately, it could

Employees with allergies or breathing problems should not be allowed to vacuum or clean mold from books. Nor should they be in the library while it is being done.



only be done when the weather is clear, dry, and relatively warm. All rags or paint brushes are thrown out when they get dirty. An attempt to wash or reuse them is not recommended.

Lessons Learned

Our final step is planning for prevention. Once there has been a mold problem, precautions must be taken to prevent a recurrence. We purchased two hygrometers (cheap ones to start which will be replaced with better ones from an archival

Mold Fighting on a Tight Budget — continued on page 6

Special Collections — Special Treatment

The treatment of books destined for Special Collections or the Rare Book Room

—by Margit J. Smith

Special collections use many of the same precautions for safe handling as are used for books in general stacks. These precautions have to be adhered to more rigorously for special collections since many rare old books cannot be replaced if they are damaged.

General cleanliness, appropriate temperature and humidity are important for the stack's collection. They become even more important when applied to the special collections rooms because of the often fragile and easily damaged materials. An auxiliary HVAC (heating, ventilating, air conditioning) system is often needed, one that can be easily monitored to make certain the temperature is kept around 60-65° F, with relative humidity around 50-55%. Direct sunlight should be blocked from these rooms by use of blinds, curtains, special Plexiglas™ or UV film applied to the windows.

The acquisitions/collections policy helps in the decision-making process for choosing materials for placement in the special collections category and prevents spur of the moment decisions. Points covered in the policy include the book's intellectual content, physical condition, historic value, purchase

price, provenance and history, usefulness to the library collection, use by students and scholars, accessibility, retrieval and loan or limited loan, exterior treatment, repair/restoration, physical housing of the item, and the collection as a whole.

The Special Collections Room at the University of San Diego is representative of special collections rooms at many institutions. There are some genuinely rare books, manuscripts, incunabula, author-autographed books, first editions, beautifully bound large editions, prints, and other art on paper, materials donated by locally prominent families, and books

important to local history — a wide variety of materials to deal with that call for different rules about treatment.

Not all books placed in special collections are rare as such. Their value is not only measured in dollars but they may contain sensitive material which lends

the book to mutilation or theft. Books with photographic plates, especially beautiful art reproductions or books of explicit sexual content, fall into this category. While the use of these materials is encouraged, a limited loan policy exists by which the books must be used in the library, and cannot be checked-out. Unless the purchase price was above a certain amount, these books are treated like books for the stacks, and are stamped, have pockets, call numbers and bar-codes but their location is indicated in the item record as Special Collections.

Dealing with a genuinely rare book — one that is destined for special collections because of its age, physical condition, rarity, intellectual content, or special relevance to the collection — requires different handling. In the interest of preserving a book in its most original state for future users, processing of these materials is kept to an absolute minimum. A note should be placed in the order record alerting the receiving clerk to send the book to cataloging rather than processing. Paper clips, post-it notes, or other attachments are never used when handling these books. Notes are written on catalog cards or order slips and are inserted into the book for as short a time as possible. Computer printouts are folded with the print and penciled writing placed on the inside to avoid transferring ink or graphite. No ball-point or fountain pens are used for notes, and writing on paper placed on top of a valuable book with even a soft pencil is avoided since an impression can damage the cover. A colored flag travels with the book indicating its special collections status. Dust jackets remain on the books as they are important aspects of the design of the book, and give much information about authors and illustrators as well as their previous publications.

Multi-item material, or multi-volume works are held together with grip-tites instead of rubber bands. No mark, stamp, pocket, call number or bar-code is placed on the item itself. This information is attached to an acid-free strip inserted about half-way into the book block. These acid-free strips come in various lengths and widths, with tabs that hook over pages, and without tabs. Severe damage can result from the incorrect use of tabbed acid-free strips by pulling the tab across the top of the page instead of pulling it straight up for removal. The use of plain acid-free strips is therefore recommended. Using a strip longer than the book will prohibit it from disappearing into the book.



Special Collections — cont. from page 3

Occasionally books have remained unopened, or uncut. These terms are often taken to mean the same thing, and so are used interchangeably. They do, however, refer to different stages in the manufacture of books. An uncut book is one with natural paper edges, sometimes called deckled edges. This means that sheets of paper were not trimmed after being removed from the paper-making frame, but were left with the ragged edge intact. An unopened book, on the other hand, is one in which the sheet-folds along the top edge or fore-edge have not been opened. To open these folds a special paper knife with a long, sharp, wide blade is used. Experimentation and practice is needed to find the correct angle and speed to pull the knife through the fold to avoid tearing or cutting outside the fold.

Books taken from the stacks to be transferred to special collections need special care. They may be too fragile for general use; they could be valuable first editions; their bindings may be especially fine or representative of a style rarely found anymore. Much of this information is indicated in notes in the cataloging record.

If possible, clean the book between the pages with a soft brush to remove all accumulations of dirt and grit. Japanese utility brushes are best. The grit, if it is left, will act as an abrasive in the gutter damaging the sewing and binding. The book can be examined at the same time for correct collation and for presence of plates and illustrations. Its physical condition can be assessed, damage noted and recommendations made for repairs. Dust the outside and the top edge. Note any marks or notations on the inside, fly-leaf, paste-downs or on the covers along with any annotations or comments found in the margins in the book. These often give valuable information about price, acquisition, or dealer and are used to determine the history of the book. If smudges or stray pencil marks can be safely removed with a soft art eraser, do it gently from the center of the page toward the edge. Never erase back and forth or press hard because it will crease and tear the paper. Very soft paper is easy to damage and erasing is not recommended.

Examine tissues covering original prints and photographs. If they are torn or the image from the print has migrated, add new acid-free tissue paper before placing the book into the special collections room. Measure the tissue carefully before cutting to ensure that all of the illustration is covered but that none protrudes beyond the edges of the book. If the call number label has fallen off, attach the call number to the acid-free strip. Remove the old label carefully if it can be done without damaging the binding. Do not remove the bar-code since doing so is usually too difficult and allows a sticky adhesive residue to remain that can damage books shelved beside it.

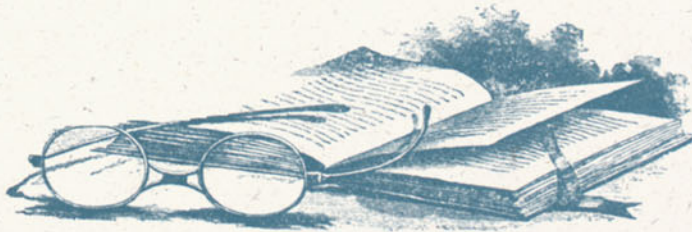
Many libraries do not have in-house repair facilities sufficiently equipped for rare book treatment. Unless a professional conservator/bookbinder can be entrusted with the repair, it is best to house a damaged book in an acid-free box, envelope, or other enclosure, rather than attempt repairs that may do more damage than good.

Frequently 17th and 18th century books bound in smooth calf skin that has undergone various tanning processes show deterioration known as red rot, the condition where leather leaves a red stain on anything it touches because it flakes off in a powdery dust. The book can no longer be handled safely. Once the deterioration has reached this point, nothing can be done to reverse the process. Bookbinders and preservation specialists have means of consolidating the powder through application of a liquid binder. The best solution is to use a pair of cotton gloves to enclose the volume in an acid-free box. Enclose the cotton gloves in the box for the next user. If the book is frequently needed, obtain a reprint or have an archival photocopy made by a reputable company specializing in archival reproduction. The original can be preserved in the acid-free box and the reproduction can be accessible for use.

Other candidates for archival reproduction are books with brittle paper. To identify brittle paper, try bending a small corner back and forth. If it breaks after the second bending, it is considered brittle. The book will be very difficult to handle and deteriorate more with each use.

The handling and treatment of books for special collections follows mainly common sense guidelines and the application of general principles for dealing with printed materials. Adherence to them greatly improves the chances of future users to find materials they need, and enables use in reasonably good condition. Once staff is trained to think about special materials in a special way, it all quickly becomes second nature.

*Margit J. Smith, Head of Cataloging
Copley Library, University of San Diego
San Diego, CA
Phone 619-260-2365, Fax 619-260-4617
E-mail mjps@teetot.acusd.edu*

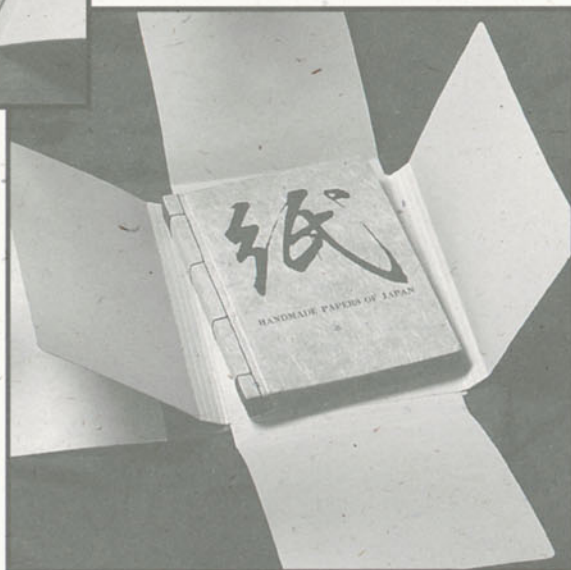


Archival Products Focus — by Janice Comer

Ideal for special collection items are **Archival Products Four-Flap Enclosures** and **Custom Four Flap Enclosures**. Both are made of dark tan archival board made from fully bleached virgin kraft. The board is free of groundwood, and levels of trace metal impurities are less than the allowable standard of 30 parts per million of copper and one part per million of iron. Colorfast and fade resistant pigments, rather than dyes, give this board its soft brown color. The bleaching process removes traces of lignin, and the added calcium carbonate results in a 3% alkaline reserve. The lamination process slightly decreases the stiffness and abrasion resistance of the tan boards, but independent tests show that these boards meet museum and library standards. The spines of both the Four-Flap Enclosure and Custom Four-Flap Enclosure are made of green C grade book cloth.



Four-Flap Enclosure (above), Custom Four-Flap Enclosure (right)



The **Four-Flap Enclosure** is constructed of .010 dark tan archival board and is mounted in a .060 dark tan binder. The .060 point board is a four ply board made of two .020 alpha cellulose core between two pieces of .010 board stock. The inner four-flap enclosure is precision die-cut, scored and squared. The top, bottom, and right flaps cover the entire length and width of the inside document, and the smaller 2" left flap completes the enclosure. This enclosure is specifically made for flat materials requiring zero spine scoring.

The **Custom Four-Flap Enclosure** is constructed of .020 board and is mounted in a .060 binder. Like the regular four-flap enclosure, the custom four-flap is constructed using our custom made precision gauge. The interior is then die cut and scored along the inside flaps.

All four flaps cover most of the length and width of the document. The Custom Four Flap Enclosure has multiple scores at 1/4" intervals up to 1" to simplify storage efforts of materials 1/4" to 1" thick. Flaps are arranged around the thicker documents in the same way the regular four-flap enclosure surrounds thinner documents. Velcro buttons secure the interior enclosure.

The **Four-Flap Enclosure** and **Custom Four Flap Enclosure** are available in special order sizes as well as standard sizes. The only difference is the interior four flap is custom made in two sections instead of one piece die cut.

We would be delighted to discuss your special projects with you. Contact us for more information and to request a sample.

Millie Knee, Customer Service Representative
Janice Comer, Division Coordinator
Toll-free 1-800-526-5640, FAX 515-262-6013
E-mail 70670.2635@compuserve.com



Come visit us at Booth #943

**The Public Library Association's
Sixth National Conference
March 26-30, 1996
Portland, Oregon**

Mold Fighting on a Tight Budget — cont. from page 2

or scientific supply catalog), and we now monitor the humidity and temperature daily, striving for a humidity level of $50\% \pm 5\%$ and a temperature level of $70^\circ \text{F} \pm 2^\circ$. If the humidity goes above 65%, it is time to inspect for mold and take steps to reduce the moisture in the air. A larger library should monitor the environment in several locations. We have moved any plants that were in the library to another office and classroom since soil is a great environment for mold. The library will not be closed for more than 48 hours without a library staff person being assigned to do a security and environment check. Cinder block walls below grade level are to be painted with a waterproof sealant, especially when shelves back up against these walls. Copier and printer paper are now to be kept in sealed boxes or Ziplock™ bags since damp paper will jam most machines.

Everything must be kept dusted since mold loves to grow in dust. Since our cleaning people cannot dust, we have made it part of the shelvers' jobs to dust the ends of shelves and tops of books whenever they read shelves.

Even though it is an added expense, we are covering all books, laminating the paperbacks and covering hardbacks with dust jackets, since our worst damaged books were hardbacks without covers. Laminated paperbacks in many cases were not affected at all.

If you find yourself in a similar circumstance, the important thing is not to panic, but to assess your own particular situation with a clear head. When I began gathering information on mold, most of the articles made terrifying reading. We were able to come out of our near-disaster by adapting advice designed for wealthier libraries.

Janet Brennan Croft, MLS Library Director
Martin Methodist College Library
Pulaski, TN 38478-2799
Phone 615-363-9804, Fax 615-363-9818
E-mail mmclib@usit.net

Articles are needed for the summer issue of Archival Products News.

We are interested in sharing your conservation and preservation projects with the library community. Please contact us to reserve space for your article.

Janice Comer
Archival Products, a Division of Library Binding Service
PO Box 1413, Des Moines, IA 50305
Phone: 800-526-5640, Fax: 515-262-6013
e-mail: 70670,2635@compuserve.com

Deadlines:

Spring Issue: February 29, 1996
Summer Issue: May 31, 1996
Fall Issue: August 31, 1996
Winter Issue: November 30, 1996

Printed on
Acid-free
archival Genesis
Cross Pointe
Birch, 80 lb.
Text, Vellum
Finish, made
from 100%
post-consumer
waste.



A Division of Library Binding Service

LBS/Archival Products
2134 East Grand Avenue
P.O. Box 1413
Des Moines, Iowa 50305
1-800-526-5640
515-262-3191
FAX 515-262-6013
E-MAIL: 70670,2635 @
compuserve.com

Products List:

Music Binder
Pamphlet Binder
Manuscript Folder
Four-Flap Enclosure
Custom Four-Flap
Enclosure
Hinged Board Cover
Academy Folder
Archival Folder

Archival Album
Archival Board
Archival File Folder
Drop-Spine Box

*If you do not
have an
Archival
Products catalog
of Quality
Preservation
Products &
Services please
call, fax, or
e-mail your
request to us.*