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The Gallery: Document Conservation

This issue of the *Archival Chronicle Gallery* demonstrates some of the tools now available for the conservation of historical documents. All photographs are from the CAC General Photograph Collection.

The raw material of historical research is the original document—a map, a letter, a ledger-book of tax records, a photograph. All these documents are made of paper, and paper is subject to many dangers. Rough handling, poor storage or display conditions, water, light, heat, even the chemical make-up of the paper and ink itself contribute to the destruction of primary resources. For decades, conservators have tried to slow, halt, or even repair this damage. Pictured here are some of the conservation treatments that the CAC's Preservation Lab can perform on flat paper documents.



◀ The Northwest Ohio Regional Book Depository

The Northwest Ohio Regional Book Depository, located in Perrysburg, Ohio, is the home of the Center for Archival Collections' Preservation Lab. The CAC early became a leader in the preservation of documents of historical value to this region, first by collecting and providing systematic access to local government records, newspapers, and manuscripts, and then by adding a micrographics operation. Finally, a paper conservation laboratory was established. In 1996, the Preservation Lab moved here, to a space especially designed for the needs of micrographics and paper

conservation work.

Consulting with a client

Although his primary responsibility is the treatment of the collections of the CAC and Bowling Green State University, Conservator Eric Honneffer also does contract work for members of the general public. Here, he sets an appointment with a client. Each document to be treated must be examined in person to determine the type of treatment needed and the cost. Eric can also recommend other resources for conservation work.



Surface cleaning



The first step the conservator takes in treating a document is often surface cleaning. Staples, metal paper-clips, dried-on rubber bands and cellophane tape may need to be removed, where possible, with a small instrument called a microspatula (seen to the right of the container, at left). Then, beginning at the center of the document and moving in single strokes toward the edge (never back and forth), the conservator uses a special cleaning compound to remove an accumulation of grime. The soft-bristle brush is used to remove any left-over cleaning compound.

Washing and deacidification

Newspapers are well-known for yellowing quickly and becoming brittle with age. This is because paper made from wood pulp naturally contains a high level of acid-producing chemicals. Unless these acids are washed away or neutralized, the paper will continue to turn brown and deteriorate until it is too fragile to use. Moreover, pulp paper like newspaper clippings or scrapbook pages transfer these acids to other papers nearby and spread the destruction. Here, Eric has placed a sheet of newspaper on a polyester support to give it strength during the washing. Next, the newspaper will receive a deacidification bath to neutralize remaining acids.



Deacidification in the fume hood



Some documents are too fragile to withstand a conventional deacidification bath, or they have inks which would run if exposed to water. For those documents, a non-aqueous deacidification solution is applied with a gentle spray. A fume hood is used to protect the conservator from inhaling the spray. When the process is complete, the documents are safe to handle.

No matter which process is used, the acid in the paper is neutralized, drastically slowing its deterioration. There is no process which can reverse damage which has already been done, but with this treatment and proper storage, the life of the document can be greatly extended.

Mending torn or fragile documents ▶

Once the document has been cleaned, washed, and deacidified, it is ready for physical repair. The document is dried, sometimes under weights to flatten it, and then its condition is reassessed. Folds weaken the structure of the paper and make it more likely to tear or break along those lines. Insect damage and physical handling over a period of many years also take their toll. Some documents, such as wall maps, may also have been coated with sizing or "preservatives" when they were created, and these have cracked or chipped, taking bits of print with them.

Because these documents contain valuable historical information, it is important to treat them so that the information they still contain will be preserved for the use of future historians.



◀ Newspaper before repair

The facsimile newspaper at left shows classic damage. It has broken along fold lines and while some chipped-off pieces are still present, many have been lost, taking their information with them. Like putting together a jigsaw puzzle, the broken pieces are reattached to the document by adhering acid-free mending tissue to the reverse of the document with a starch paste or a heat-activated adhesive. Some documents which have information on only one side may have the fold-joints reinforced with acid-free mending tissue.

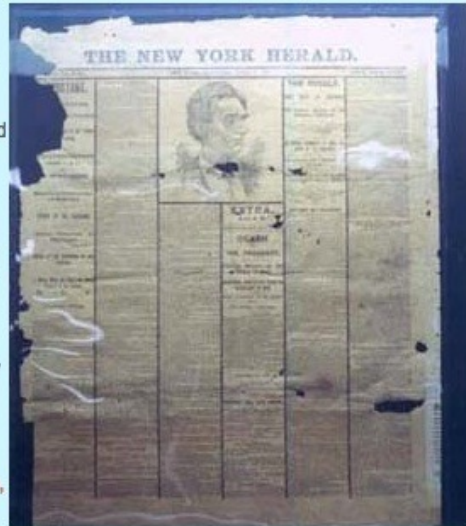


After repair and encapsulation ▶

Many items which can expect heavy use or have information on both sides (such as newspapers) can be encapsulated. After the document is repaired, it is placed between two sheets of polyester film and the edges are sealed with double-sided tape or ultrasonic welding. Unlike lamination, in which a plastic coating is melted onto the surface of the document, encapsulation is a completely reversible process. In future years, should the document require further conservation

treatment, it can be removed from this enclosure without damage. Likewise, the adhesives and repair tissue used in mending the document can be removed easily if necessary. The conservator's goal is to halt deterioration, repair damage, and protect the document for the future, all without doing anything which will damage the document further.

For further information about this facsimile newspaper, see the [Archival Chronicle](#), August 2001.





Small book enclosure

It's easy to think of single-sheet documents needing to be encapsulated or placed in file folders to protect them and to make them easier for researchers to use. Pamphlets, being made entirely of paper, can be torn easily if shelved among books, unless they are placed in protective covers. Other publications also have special needs. The book at left is less than five inches tall. If placed on the shelf with taller books, it can easily slide back behind them and become lost. Even if this doesn't happen, the covers of taller books on either side may soon warp from the uneven pressure. To prevent this from happening, enclosures are often made like the one shown here. The book is held securely in a cut-out board of the same thickness. An acid-free wrapper protects the entire construction which is now the same size as most other books on its shelf.



Enclosure for a two-part publication

This enclosure carries the above idea to the next step. This publication is made up of two parts of different sizes. They can easily become separated from and damage each other if shelved as they are. In this case, the conservator has made a cut-out board to surround the smaller, thicker piece that is the same height and width as the booklet of illustrations that goes with it.

Mylar jacket for illustration

A mylar dust jacket has been made for the booklet of illustrations to provide it with additional support and protection from wear. Both parts of this publication

can now be housed together in a single wrapper of heavy-weight acid-free cardboard. They are easily retrieved and can be kept on standard library shelving.



Post-binding for atlas

Atlases contain a great deal of valuable historical information, and because of this, they get a tremendous amount of use. Often, by the time an historical atlas arrives in the collection, it is completely falling apart. In these cases, the conservator takes radical steps. The title medallion on the cover has been saved and mounted on the cover of a custom-made post-binding. This preserves the information from the cover and gives researchers an impression of the original binding.

Inside the atlas

Each page in this atlas has been individually encapsulated. An extra-wide left "margin" allows the pages to be held in the post-binder without being damaged. In fact, thanks to this procedure, some information that was difficult to read near the center of the book is now much more accessible. Best of all, the atlas can now be used by many, many researchers without additional damage.

