

## Mending Lite

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In this paper I will describe the mending procedure I have used as an intern at the Nebraska State Historical Society. In my brief period of training at NSHS, I have done mending on documents, maps, and books. The papers varied in weight, strength, age and texture.

I have been using this method for about a year with much success. I ran an experiment of my own to test the strength of these mends. I took a scrap sheet of old music and made two tears. These I repaired with the method I will describe below. The mended paper was encapsulated with 3 mil polyester. For five months (May-Sept. '90) I carried the encapsulated piece in my backpack. It was treated roughly and it had no folder or other protection. The repair did not fail and the original tear did not worsen.

The materials I use for mending are illustrated in Figure I. They are:

1. Medium to small brush; soft bristles
2. Small bowl of adhesive
3. Glass slides; 3x7x1\4 inches
4. Japanese tissue
5. Reemay and polyester strips
6. Spatula
7. Tweezers

Because of the convenience and because I do mending sporadically, I have worked mainly with methyl cellulose as the adhesive. I have used wheat paste, but prefer methyl cellulose because it stays moist longer, is faster to make and has a longer shelf life.

The Japanese tissue I use most often is Tengujo. The color of the paper to be mended is a consideration, as is the weight. In my case, I have found Tengujo to work the best.

My first step is to examine the tear. Is it feathered or is it more of a hard edge cut? If the feather is wide enough I put Reemay underneath the tear, fit the tear together properly and put glass slides on either side of the tear to position the paper for mending. (see Figure II) Then I dab small amounts of methyl cellulose on either side of the feather and put it back together. Slides may need to be removed when applying the adhesive so the paper is not bent or otherwise stressed.

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Cathy Atwood is the current paper conservator.

If the tear does not have enough of a feather to add methyl cellulose directly, or is a feather tear needing more support, I use tissue. First I will pull a section of the tissue off of the main sheet ( see Figure III) and place it on the polyester. Then I brush a thick layer of methyl cellulose onto the tissue. (See Figure IV ). Next I separate a small section from the wet tissue with a spatula (see Figure V). Using the tweezers and spatula, I pick up a few fibers from the piece of wet tissue and apply it to the tear (see Figure VI). The two ways I have found to work are illustrated in Figures VII and VIII.

For lightweight, double sided, small papers that require the mend to be as invisible as possible, use the cross method in Figure VII. In the cross method the fiber bridges can be as much as an inch apart.

For heavier, frequently used paper in which the image or words only appear on one side, I use the parallel method shown in figure VIII. In this second method I separate a slightly longer strip of the wet tissue. I then apply the fibers following the contour of the tear. In this parallel method I butt the strips right up to each other so the entire tear is covered.

During drying the glass slides remain next to the mended tear. This allows the mend to air dry without blotters, giving the conservator a chance to observe the progress of the drying. However, if the torn area needs restraint I put a light glass slide on top of the tear, with Reemay as the release layer.

Most of the paper I mend is encapsulated after treatment, so the mends just need to act as a bridge. This mending technique is suggested for use on library and archival materials. It might be appropriate for other paper artifacts as well.

I have not found my method of mending discussed in current literature on the subject. Recent reading I have done on typical ways to do mending shows methods similar to each other, but significantly different from my methods. These standard sources, that are referred to by many people who learn mending, are listed at the end of this paper.

Supplies are generally agreed upon. Acid free Japanese papers such as Sekishu, Kizukishi, Goya, Hoshu, and Shoji are mentioned. Most of the papers they recommend are much heavier than the Tengujo that I use.

The width of the mending strips is the important difference between my method and the published norms. Some sources do not specify what the width of the strips should be; the illustrations show about one half inch being torn off. One source suggests one eighth inch width and one inch length for the mending strip. Others say one quarter to three eighth inch, "desired width" or just "strips".

When drying the mend the sources specify that blotters be placed above and below the repaired object. In addition they indicate that a heavy weight be used. They say the purpose of the weight is to make sure there is a bond between the mend and the paper, or to keep the paper from cockling.

The sources seem to leave much room for individual interpretation. The main differences I see between my method and those I have read are: the width and heaviness of the mending tissue applied to the tear, and the amount and placement of weight on the mend. The very small amount of tissue I use is just enough to hold the tear together without being obtrusive. Very little paste is used, reducing the possibility of tide marks. The light weight, usually placed at the side of the mend, also eliminates the need for frequent change of blotters.

This suggested method of mending is not radically different from the traditional procedure. I hope you will experiment with this technique wherever it seems appropriate.

**Sources:**

Cunha, George M. & Dorothy G. *Conservation of Library Materials*. 2nd ed. Metuchen, NJ: Scarecrow Press, 2 vols.

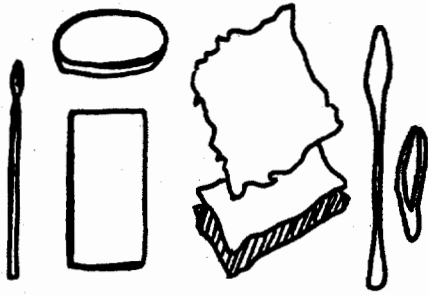
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Morrow, Carolyn Clark and Carole Dyal. *Conservation Treatment Procedures*. 2nd ed. Englewood, Co: Libraries Unlimited, 1986.

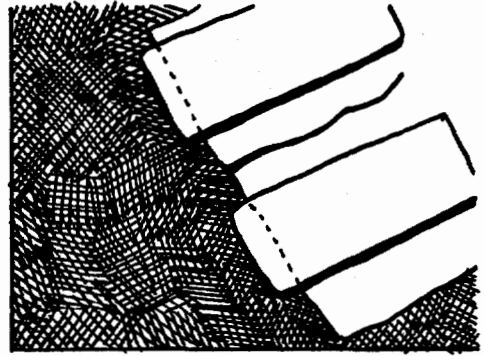
Ritzenthaler, Mary Lynn. *Archives & Manuscripts Conservation*. 2nd ed. Chicago: Society of American Archivists, 1984.

Swartzburg, Susan Garretson. *Conservation in the Library*. Westport, Ct: Greenwood Press, 1983.

I.



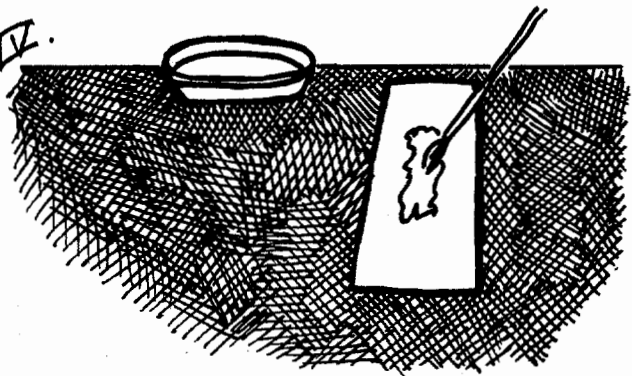
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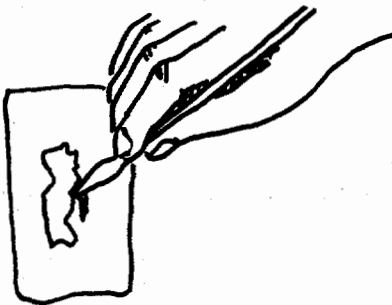
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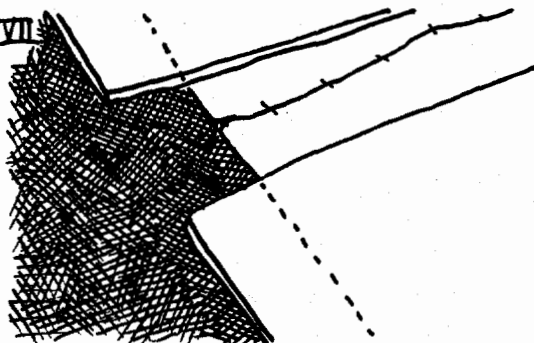
V.



VI.



VII.



VIII.

