

## Water-Damaged Books—Washing Intact and Air-Drying: A Novel(?) Approach

### ABSTRACT

In 1995 the University of Maryland was faced with a small water disaster that resulted in 250 rare books being soaked. The books were frozen and, eventually, vacuum freeze-dried, but the results were less than desirable. Many of the eighteenth- and early nineteenth-century volumes were left with stained and unusually brittle leaves. The request was to wash the books to remove the stains and return the leaves to their pre-disaster flexibility. Since the sewing in many of those books was intact, I was presented with an opportunity to reinvestigate a treatment I had used many years before—washing a book intact. Usually a book in this condition would be disbound, treated, mended, and re sewn. Under controlled conditions, however, an intact text block can be washed, buffered, and dried with excellent results.

The covers, which were damaged beyond retrieval, were removed. The books were submerged in recalcified water while being suspended from a metal strip (i.e., a stainless steel ruler). The water was changed a number of times and there was a final wash with magnesium bicarbonated water to buffer the paper. The book was drained, pressed by hand, and gently reshaped. Excess water was removed by a gentle nip in a book press. For drying we had previously used vacuum freeze drying, but for these books we modified the decades-old technique of interleaving. The results have shown great promise.

The pages were carefully opened and interleaving material was inserted. Initially, thin blotters and paper towels were used. Then we found a polypropylene and cellulose fiber wipe that is used in the computer industry. It was found to be superior because it is thin, strong, and absorbent. It also has good wicking properties. To avoid excessive strain on the binding, the wipes are inserted approximately every one-eighth inch throughout the book. We used an oversized wipe that extended beyond the head, tail, and fore edge of the text block.

The book was then set up similar to the “wind tunnel” technique of drying sensitive paper between corrugated boards that has been used successfully by many conservators. Corrugated board was inserted between the overhanging interleaving material at head and tail in order to prevent drooping, which would impede the free circulation of air. The book was then placed between boards and weighted. The weighted assemblage of text block, interleaving, and corrugated supports was set into a drying chamber. The chamber was shrouded, except for the text block and interleaving assemblage, and a window fan drew air through the flutes of the corrugated board. The moisture, wicked from the paper by the interleaving material, was carried away by the moving air. By this process drying can take up to five days but there is little chance of mold growth because of the continuous air movement. We have also experimented with alcohol as a pre-wash and as a post-wash. This technique reduced the drying time to approximately two days.

While this technique is still being developed and there are many refinements to be undertaken, the end results have been excellent. The books look terrific and the time spent on each is minimal, compared to the time required for the usual procedure of pulling, treating, mending, and re sewing. We look forward to sharing experiences with other conservators who are developing creative solutions to the problem of water-damaged books.

A full report on this procedure will be available in next year's *BPG Annual*.

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