The Repair of Documents—American Beginnings

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SEVERAL METHODS of repairing documents had been developed in the United States by the beginning of the twentieth century.

The first attempt to restore documents on an extensive scale was that of the Bureau of Rolls and Library, established in the Department of State in 1882. After its establishment the Bureau was given custody of the Continental Congress papers and of valuable private papers acquired by the Government of the United States during the nineteenth century. These included the papers of Washington, Madison, Jefferson, Hamilton, Monroe, and Franklin.

The Franklin papers, "loosely bundled up," were found in a Paris tailor's shop by Henry Stevens, Vermont bibliophile.[1] They were received by the State Department after arrangement and "after careful restoration and binding" by Stevens. A State Department official said that Stevens' methods "formed the Department's model for later work on the same lines."[2]

During a meeting of the American Historical Association's Public Archives Commission, Frederic Bancroft, who became head of the Bureau of Rolls and Library in 1888, reminisced about how document restoration began in the State Department:

> There was no one in the Government service who had had any experience. Do you remember, back in 1888, anyone who had mounted manuscripts? . . .
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> I found there was one man in Brooklyn who knew about it, and also a firm in Philadelphia. I went to see the man in Brooklyn, found he was a man of some skill, but not the kind of man who ought to be trusted with those documents. I went to Philadelphia and saw Fosterman & Nicholson. I immediately saw they were experts. . . .
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> I told them: "We have but $2,000." Their men drew pretty large wages. We needed two or three men. They sent them over and we had just enough

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[1] Dorothy S. and Vincent L. Eaton, "Manuscripts Relating to Early America," in Library of Congress, *Quarterly Journal of Current Acquisitions*, 8:22 (Nov. 1950).

[2] American Historical Association, *Annual Report*, 1894, p. 283. Hereafter the symbol AHA is used for the name of this association.

to pull through that year. . . . When I went back the second time I was afraid we would run into difficulties. Mr. Nicholson used to come over occasionally. I said: "Mr. Nicholson, we may be coming near to the end of our rope unless you agree to a certain plan and make the Government feel a little bit independent." "What is that?" "It is rather unwelcome to you. You will have to teach some one in the Government to do the work." He said that was not what the specialists were there for. I said: "Then the work will have to stop." He finally consented. We got another appropriation. They brought two women from the Government Printing Office and carried on the work.[3]

Between 1889 and 1892 the Government appropriated $14,000 "for the restoration, mounting, and binding of certain manuscript letters and papers."[4] On June 3, 1893, Andrew H. Allen, who succeeded Bancroft as Chief of the Bureau of Rolls and Library, wrote the Philadelphia firm that the services of its employees "now engaged here in restoring and mounting the Manuscript archives" would be terminated for lack of funds.[5]

The first records to be restored, mounted, and bound by the Bureau were those of the Continental Congress. These were followed by the papers of Madison, Monroe, and Washington. The restoration process employed at the Bureau involved, first, "a strengthening of each paper requiring it, and the piecing out of ragged edges"; second, "the attachment of each paper to a linen hinge, which is in turn affixed to a sheet of heavy 'ledger paper,' also provided with a linen hinge"; and, third, the binding of the papers.[6]

Another method of repairing documents was that devised by Francis W. R. Emery of Holyoke, Mass. The first notice of the Emery process, which became rather well known, appeared in a Massachusetts newspaper in 1894.[7] The newspaper account described the process, which it said was the outcome of years of study, as follows:

> The paper or document, after being cleaned or brushed, is washed on both sides with a transparent adhesive solution. Sheets of white silk of the most delicate fabric, large enough to give ample margin or border . . . , are then placed on either side of the records and pressed.

[3] AHA, *Annual Report*, 1916, 1:146.
[4] AHA, *Annual Report*, 1894, p. 287.
[5] "Library Letters, 1892-1893," p. 496, in Records of the Department of State, National Archives, Record Group 59.
[6] AHA, *Annual Report*, 1894, p. 297; *Annual Report*, 1916, 1:146.
[7] Clippings in Justin Winsor papers, vol. 9, "Historical Letters, Scraps, etc.," in Massachusetts Historical Society.

Emery applied for a patent for a "process of preserving records" on August 27, 1894. The patent examiner who examined his claim rejected his application on the following grounds:

Claim 1 covers merely the pasting of a mutilated document to paper or silk. It is a matter of common knowledge that it has been a long time the practice to repair papers and documents by pasting thereto paper and tracing linen. This has been very generally practiced in the Department of State, and in the Record and Pension Division of the War Department, and said claim must, therefore, be rejected for want of novelty.

Claim 2 covers merely the use of paraffine for waterproofing. This is old as shown by [previous patents]. . . .[8]

About a year later, Emery filed an amendment to his claims, and on June 2, 1896, he was granted Letters Patent no. 561,503. In the specification, which formed part of the patent, he described the process as follows:

To carry my invention into effect, I proceed in the following manner: The book, record, or document to be preserved is first cleaned of all dust or foreign matter that will have tendency to prevent adhesion of lining when preservation paste is used. I then carefully match parts of a sheet together on oilcloth or soapstone surface which has been previously moistened to prevent displacement. Then I cover the entire surface of one side of the sheet with thin paste applied with a brush. The paste is made in the following manner: Rye or wheat flour and water are thoroughly cooked with a small per cent. of alum. After cooking and while warm I add a tablespoonful of glycerin to a quart of paste to render the sheet pliable and soft. The leaves of the book, record, or document are now ready for receiving the lining of silk or tissue-paper which covers the same throughout or completely covers the sheet on top side that has been first pasted, as stated above. Then the lining with sheet now covered or lined on one side is carefully removed from surface. The surface is again moistened, the sheet under treatment reversed and lined in the same way and manner as the other side, thereby completely covering both sides of the sheets of the book, record, or document with lining of silk or tissue-paper. Then I lightly press the same to exclude air and insure adhesion. This is done between two sheets of paraffin-paper. Next, I thoroughly dry, then moisten, and then press the sheets. The sheets are now ready for sealing or coating with paraffin, which is performed in either of the two following manners: First, when the writing is heavy and dark of creosote-ink, to prevent spreading of ink during process of sealing I place the sheet on warm soapstone-surface and rub the same on both sides with a block of paraffin until the silk or tissue-paper is filled with paraffin, thus completely sealing the same from air and also preventing any animal or insect from even injuring the same, as no animal or insect will eat or touch paraffin, thus adding another safeguard to the document treated by

[8] Rejection, Nov. 16, 1894, in case file for patent no. 561,503, in Records of the Patent Office, National Archives, Record Group 241.

my process. When the ink is ordinary, as in most cases, the paraffin is applied in the following manner: by cutting or melting the paraffin in benzene in a hot-water bath, then applying with a sponge or brush to document, allowing the same to penetrate the entire sheet, thereby sealing same from air, as set forth in foregoing treatment when paraffin is used cold.[9]

On Emery's death in 1900, the patent was assigned to his heirs, Eliza A. Emery and Alice S. Emery.[10]

The Emery process was first applied to the records of Massachusetts. The early Massachusetts archives, as is well known, were organized under a topical system by James Barlow Felt, Massachusetts clergyman, antiquarian, and librarian. Felt, who was named Public Record Commissioner by the Governor of Massachusetts, spent ten years, from 1836 to 1846, classifying the Commonwealth's records. He established a large class for Colonial records and he classified the remaining records under 75 other topical heads. After the records were arranged, he had them bound in 242 volumes, identified by the topics to which they related. Many of the documents were silked by the Emery process before binding, for the volumes in which they were bound bear the legend: "Done by the Emery Record Preserving Co. of Taunton, Mass."

The Emery silking process was used also in Connecticut, in preserving both State and local records. When Nelson P. Mead, American historian, produced an inventory (1906) of the State public records for the Public Archives Commission of the American Historical Association, he remarked, "Some towns have restored their oldest and worst worn records by the excellent Emery silk process."[11] George S. Godard, State Librarian, reported similarly in 1907 that "many volumes of records in the office of the secretary, in the state library, and throughout the State have been substantially preserved by means of the silk process."[12] The volumes in the Office of the Secretary of State included many of the general assembly's early records, which had been organized by subject in a manner similar to that followed in Massachusetts.

In New York the Emery silking process was applied to "the more important papers" by Arnold J. Van Laer, the well-trained Dutch archivist who became archivist at the State Library in 1898.[13]

The "Emery Silk Process" was mentioned in 1912 by Victor

[9] Specification, in case file cited above.

[10] "Digest of Patent Assignments," vol. E-7, in Records of the Patent Office, National Archives, Record Group 241.

[11] AHA, *Annual Report*, 1906, 2: 54.

[12] AHA, *Annual Report*, 1907, 1: 165.

[13] Pennsylvania, *Report of the State Librarian*, 1903, p. 19.

Hugo Paltsits, keeper of manuscripts at the New York Public Library.[14] In the meetings of the American Historical Association's Public Archives Commission between 1909 and 1919, Paltsits strongly advocated the production of a "Manual of Archival Economy for the Use of American Archivists," one chapter of which was to be devoted to "Binding, Repairing, and Restoration." In discussing this chapter during the 1912 meeting of the commission, Paltsits referred to the "Emery Silk Process" and also to "the use of mousseline or crepeline netting."

The third method of repairing documents developed by the beginning of the twentieth century was that involving the application of crepeline or mousseline. This method was developed by officials of the Government Printing Office for the Manuscript Division of the Library of Congress. A National Archives bulletin describes a silking method using crepeline.[15] It is, for all practical purposes, identical with the "Emery Silk Process" except that it does not include coating the finished document with paraffin. In this method a large piece of heavy fiber or wallboard, such as beaverboard, is covered with wax paper. The document is placed on the board and paste is applied to the exposed side. The crepeline is placed over the document and smoothed down from the center to remove wrinkles. Paste is then applied to the silk face. To prevent shrinkage the silk and document are held to the board by tacking the outer edges of the silk. When dry, the document is turned over, and the opposite side is treated in the same manner. If it were then allowed to dry completely, the treated sheet would have a rough, sandy feel. This is prevented by removing the treated document before it is completely dry and placing it between smooth boards in a binder's press. This is probably the reason why Emery remoistened the treated document and placed it under pressure until dry.

While head of the Manuscript Division, Gaillard Hunt stated that experiments in repairing documents began at the Library of Congress about 1900. At that time two different repair methods were employed in Europe: the German method, devised by Edwin Pussey of Dresden, in which documents were immersed in a protective liquid known as Zapone; and the Italian method, devised by Father Franz Ehrle, librarian at the Vatican, in which protective sheets of gauze were pasted to documents. American archivists

[14] AHA, *Annual Report*, 1912, p. 261.

[15] Adelaide E. Minogue, *The Repair and Preservation of Records* (NA *Bulletin* no. 5, 1943).

learned of the Italian method during a meeting of archivists at St. Gall, Switzerland, early in the twentieth century.[16]

Hunt said that experiments in the Library of Congress were first made with liquids, "but the liquids were found to stiffen the paper." Hunt, who was with the State Department at that time, found that the methods employed in the United States "had become so elaborate . . . that when I went to Italy and saw the system in vogue in the Vatican, I found the lazy Italians turned out ten times as much work as we did in the United States." After experimenting with preservative liquids, Hunt said "the plan followed in the Vatican . . . , of placing the sheet of paper between two sheets of crepeline, was tried, and has been adapted to American purposes."[17]

In 1901, the Librarian of Congress reported that two persons were detailed from the Government Printing Office to work on the repair of documents. He described the repair process as follows:

> The paper is first dampened so that creases and turned edges may be smoothed. Care must be taken to smooth no crease which was unnoticed by the writer, lest legibility be sacrificed. The manuscript is then dried between boards and submitted to heavy pressure. This prevents the reappearance of the original roughness. The period of pressure necessary to secure a permanently smooth surface is about twenty-four hours. Where the quality of ink will not allow the manuscript to be dampened this period must be much extended.
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> The manuscript is now ready to be repaired. For this purpose paper of similar color and texture to that of the original manuscript must be obtained. In many cases, owing to the age of the manuscript, this is no easy task. Hand-made paper is necessary and no bit of such paper is wasted. A patch conforming in size to the hole in the original manuscript is cut, the edges of both hole and patch carefully beveled and scraped, and the patch held in place by the use of a thick flour paste. The manuscript is then heavily pressed. When dry the line of union between patch and paper is again scraped and the first stage in the work of repair is completed.
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> But a manuscript thus repaired is not ready for use. Although no attempt is made to supply words which have been torn from the original manuscript, it is protected against further loss. For this purpose a covering of tracing paper or of fine silk veiling (crepeline) is used. Tracing paper gives firmness but impairs legibility, and the veiling is generally preferred. This covering is pasted on each side of the manuscript, that the tendencies for the paper to curl in either direction may be neutralized. When dry the manuscript is again pressed and mounted for filing.[18]

[16] AHA, *Annual Report*, 1916, 1:144, 154.

[17] *Ibid.*, 1:144, 145.

[18] Library of Congress, *Report of the Librarian*, 1901, p. 261; also reprinted in Pennsylvania, *Report of State Librarian*, 1903, p. 21.

The most detailed description of the Library of Congress repair method was provided by William Berwick, of the Government Printing Office, in an article on "The Repairing and Binding of Archives."[19] The crepeline used at the Library consisted of a mixture of cotton or silk gauze (or fine, mercerized bolting cloth),[20] and the paste used consisted of 1 pint of rice flour, 3 pints of water, and 3 or 4 grams of salicylic acid or pulverized alum.[21]

The Library of Congress repair method was generally adopted in other repositories in the United States though various materials (such as mousseline, silk, and transparent papers) were used for protective coverings and various recipes were used for mixing paste. In 1903, when the Pennsylvania Custodian of the Public Records visited a number of repositories to study their methods, he found that the Astor-Lenox Libraries in New York City and the Historical Society of Pennsylvania in Philadelphia used crepeline to cover their "important documents" and that they used a paste similar to that of the Library of Congress, though one of the repositories used "oil of cloves" instead of salicylic acid or alum to "sweeten" its paste.[22] Clarence Walworth Alvord, noted American historian, also used the Library of Congress method in repairing the Kaskaskia records pertaining to the French and British administration of Illinois.[23]

Such was the state of methods of repairing documents as they had been developed before the 1920's. Laminating and other more scientific processes were yet to be tried.

[19] AHA, *Annual Report*, 1916, 1:154-161.
[20] C. Graham Botha, *Report of a Visit to Various Centres in Europe, United States of America and Canada*, p. 43 (Pretoria, 1921).
[21] Pennsylvania, *Report of the State Librarian*, 1903, p. 20.
[22] *Ibid.*
[23] AHA, *Annual Report*, 1910, p. 248.