CONSERVATION: WHAT'S AN ARCHIVIST TO DO?

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"All that mankind has done, thought, gained or been: it is lying as in magic preservation in the pages of books." So Thomas Carlyle believed—and so must archivists of today. As caretakers of history, they are now recognizing that their responsibilities go beyond mere collecting. It is not enough simply to gather together papers that will pursue a course of self-destruction if left to their own devices—let alone the devices of those who use them. It is ironic that Carlyle spoke of the "magic preservation in the pages of books." Obviously he did not know, writing in the eighteenth century, that by the year 1985 the expected useful life of a piece of ordinary paper, with normal handling and storage, may be no more than twenty-five years!

So what are modern archivists to do? Virtually every one has vast stores of materials. Even if they had the money needed for the monumental task of preserving them, they would not be able to save every physical object: there is not enough time. Time races on, and the sheer mass of the holdings seems to dictate that the caretakers of archives find some equivalent scale for preservation efforts.

That term, "mass," has become quite prevalent in the field of preservation. Everyone has heard of mass deacidification, the large-scale chemical treatment which neutralizes the acid in paper and deposits an alkaline reserve. The Library of Congress has recently completed successful test-runs utilizing diethyl zinc for its mass deacidification process. The Public Archives of Canada, in cooperation with Richard Smith, is perfecting the use of magnesium carbonate.

The cost estimates for mass treatment of these types are indeed reasonable on a "per item" basis, and are certainly less than item-by-item treatment. Application on a large scale, however, is probably still beyond the means of most archival repositories, and these processes are not yet readily available outside their sponsoring institutions. In any case, deacidification is most useful for "new" paper which has not yet been seriously affected by acid deterioration; brittleness and discoloration are not reversed. As Carolyn Harris

stated in her article on this subject, "if we realize the limitations of mass deacidification—that, at best, by slowing down the aging process it lengthens the life of a book perhaps two to six times—we see that deacidification is but a partial solution, to be combined with other approaches to preserving the intellectual content of the book. . . ."[1] These comments should not discourage the consideration of mass deacidification as one conservation option. They only suggest that it is not the answer to all preservation prayers; archivists cannot postpone adoption of other options on the basis of this expectation.

Other present alternatives, in terms of large-scale considerations, involve duplication of intellectual content, a basic concern of archivists and conservators. This is most often accomplished through photocopies and microforms, or perhaps optical disks. One version of the disk is currently being tested by the Library of Congress, with a report on its potential for information preservation and management due soon. Its expected advantages are improved retrieval and access, decreased deterioration due to wear and tear, image enhancement, and increased density in storage capacity.[2] An equivalent of 95,000 pages can be stored on two sides of an optical disk.

Optical disk memory employs laser light to write data by burning holes in a variety of media, usually metals; one version of the metallic disk is being used by the Library of Congress. There are questions, however, concerning the stability of this image. As with the paper industry, the developers of the disk are not thinking primarily in terms of the needs of archivists. They consider "long term information storage" as being ten years, and even this is still a general goal, not an actuality. The Optimem Company in Sunnyvale, California, is one of the companies concerned with extending the life of the disk. Its Product Marketing Manager, Larry Fugitani, feels that it is unrealistic ever to expect a longer useful life than ten years, and that, in any case, disk storage would be impractical in most archival situations because the equipment necessary for reading the information would so quickly become outmoded, requiring replacement of machinery and re-writing of information every five to ten years. Another point he makes is that material which is rarely accessed—that is, most archival materials—does not justify optical disk storage.[3] In these cases, the rapidity of retrieval would not be a frequent enough advantage to off-set the cost of disk production. The actual cost of the disk for archival use at the present time is undetermined, since it is being used mostly to produce, for example, 100,000 units of the same information.

Another disk project is currently underway at the Smithsonian Institution, which is examining the possibilities of the laser-read photographic disk.[4] This medium shares the advantages of metallic disks; more importantly, perhaps, it should have an increased life

expectancy, equivalent to that of ordinary photographic emulsions. More specific data on this system is not now available, but it is assumed that it will be more practical for in-house development, since it will utilize "off-the-shelf" components. Even so, however, the current cost expectation for the integrated system is $100,000, making it prohibitively expensive for many—if not most—institutions.

Criticisms of the optical disk may eventually prove unjustified. Fugitani's conclusions, for instance, may be quite different from those which will be drawn by the Library of Congress; many questions are still unanswered. A number of archivists and librarians are at least intrigued by the *potential* of optical disks, including "archival quality" as we use that term. The balance of opinion may be shifted by empirical data coming from the Library of Congress, the Smithsonian Institution, and others. The main point to be made here—as with mass deacidification—is that we cannot wait for this new development. We cannot afford to postpone conservation programs in the hope that "miracle cures" are just around the corner.

The miracles which *are* available now are the photocopy and microfilm, to which most archivists have ready access. The first of these is useful, of course, when one does not want, for whatever reason, to be restricted to machine-readable records. The major disadvantage (in addition to the conservation care of the paper thus generated) is the production, as a result of replication, of an equivalent or greater volume and weight of paper.

Since this factor—the scarcity of space, essentially—is a present or pending problem for almost all archivists, we may assume that for the present we are left with microfilm as the principal viable reprographic medium. And it is indeed viable, though it is not cheap. The present use of microfilming, in fact, may be a telling argument for maintaining a more hopeful attitude concerning the future archival applications of such developments as the optical digital disk. Not so long ago, in 1939, Joseph Broadman (who was advocating his own commercial system of preservation, a kind of lamination) wrote archivists and librarians across the country decrying the use of microfilm for the preservation of intellectual content. He argued, in part, that "in adopting micro-film one is converting the library into a photographic menagerie. . . . Micro-film is a fad . . . [which] does not serve the purpose for which it is advertised. It does not save storage space, for the reason that no one having an original file, would part with that file in favor of films of same. . . . Those who believe in micro-film only think of the present."[5]

There may be some who would, even if only partially, agree with Mr. Broadman in bemoaning the usurpation of paper by the increasingly ubiquitous "reading machine." But we, like Charlie Chap-

lin's "Little Tramp," are faced with modern times, and the hope is that we will be able to cope with them somewhat more effectively than he. Probably no one looks forward to curling up in bed with a cozy laser photodetector, but being entrusted with the preservation of our intellectual heritage most often means, in this day and age, that reproduction must be a part of any conservation program.

Two statements made earlier might be repeated here: (1) a major concern is the preservation of intellectual content, and (2) we cannot afford to save every piece of paper, whether due to constraints of time or of money. So, in a way, microfilm *is* the present answer to at least one prayer. Silver halide microfilm, if properly processed and stored, is of archival quality, and thus preserves information at a great saving of space. In addition, it is actually a conservation tool which enables us more effectively to preserve those original items we do wish to keep in their original form by reducing damage from use. An active microfilming program, however, still does not by any means absolve archivists of the responsibility for establishing broader conservation programs in their own institutions. There are many items which should be preserved in original form, whether or not the information they contain has been duplicated elsewhere.[6]

Wayne Grover, when Archivist of the United States, stated in "The Archivist's Code" that "the archivist has a moral obligation to society to preserve evidence on how things actually happened and to take every measure for the physical preservation of valuable records."[7] "Every measure" entails any action we are able to put into effect in order to prolong the useful life of our holdings.

Any institution should have a formal assignment of conservation duties to a professional staff member—even if it has a staff of only one. If the staff includes five or more professionals, then conservation deserves a full-time appointment. It may be helpful, in the beginning, if one person can combine the administrative responsibilities of conservation with laboratory work. Centralizing conservation duties and work and making funding for conservation a line item in the budget tend to strengthen the quality and enhance the authority of the program. If it is not possible to appoint a full-time conservation officer, then a present staff member who is knowledgeable about conservation can oversee the program.

Another point which is applicable to any aspect of a conservation program is the importance of careful planning. A buckshot approach to conservation may be better than nothing, but is certainly less than ideal. Determination of priorities, most logically based on some form of collection survey, helps to identify needs and focus efforts. In the absence of a survey of the collection, items in need of conservation attention may be evaluated as they are accessioned, or as they are retrieved for patrons. Treatment choices may be made on the basis of

intrinsic value, physical condition, and/or expected use. An examination of facilities and holdings should also entail a review of the broad range of current practices to eliminate any that are inappropriate, or even harmful. You can at least specify what must *not* be done.

A number of conservation procedures can be incorporated into routine archival functions. As much as possible, conservation should be a part of normal, expected activities; it is not an area of consideration to be relegated to special occasions. Any time a collection is processed, you should: remove harmful rubber bands, paper clips, brads, and other fasteners (including hair pins and nails); unfold or un-roll, using humidification and gently flattening when appropriate; and whenever applicable, re-house. Re-housing refers both to providing acid-free folders and document storage boxes, and also to encapsulation and custom "phase" boxes. Any institution should be encapsulating; it is an easy and safe technique, and provides great physical protection for documents and other flat paper. Another simple procedure, though not so simple as encapsulation, is making phase boxes, which provide very good protection for any fragile item which will be shelved.

An educational component for any program is of great importance in the prevention of damage and deterioration, and should be carried out for both staff and patrons. There are a number of slide/tape programs on handling procedures which are appropriate for staff enrichment meetings.[8] For patrons, it is useful to present a written statement of the institution's regulations regarding the handling of materials. And it is quite legitimate to restrict—or even forbid—patron use of fragile originals, at least until they can be provided with adequate protection.

The foregoing points are some of the components in a preventive conservation program. Another major part of such a program is control of the environment. By now, most archivists are well familiar with the environmental requirements of consistent levels at 65-70° F., approximately 40-50% relative humidity, filtered air, and protection from ultraviolet radiation in lighting. They know about acid-free containers and baked-enamel steel shelving. Knowledge and action do not always coincide, however; monitoring and adjusting the elements of the environment are on-going, constant concerns.

As the term "phase box" would imply, conservation itself can be dealt with in phases. When there is so much to do, and inadequate staff or resources with which to do it, it is easy to be overwhelmed to the point of inaction. But it should be understood that not every item coming to the work bench must receive a full course of treatment. What is referred to as "phased" conservation is based on the theory

that you do what you can at present with the expectation that further attention will be given to an item at a future date. This may mean, for instance, that a document is encapsulated in 1985, even though it has not been deacidified; in 1990, under an organized, phased program (which implies accurate and detailed record-keeping), it may be removed from its capsule, deacidified, and re-encapsulated. In the meantime, it has had secure physical protection and has thus had its life expectancy improved.

Beyond protective enclosures, there are relatively simple procedures which can be carried out in a small lab. These are surface cleaning, humidification and flattening, testing for pH and ink solubility, mending and leather treatment. Their simplicity, however, *is* relative. Training, such as that which has been made available through the Society of American Archivists' Basic Conservation Workshops, is essential, as is practice. In addition, there are several books available with instructional information.[9]

It might be possible to have volunteers work on some tasks, though expectations for the quality of their work should be just as stringent as those for paid employees. (In conservation, it is preferable to have no work done at all instead of work poorly done.) An archives near a college or university might seek an intern from art or graphic arts, or perhaps an architecture student who would like to plan environmental improvements for the building as a special project. It must be kept in mind, of course, that someone must be available to instruct volunteers and interns in basic conservation concepts.

The qualities to be emphasized when hiring a conservation technician are manual dexterity, attention to detail, and a considerable tolerance for monotony; it also helps to have an interest in books, history, and art. It may be that someone already on the staff meets these criteria. But "interest" alone is not enough; without the first two qualities (manual dexterity and attention to detail) the others are insufficient for applied conservation. In that case, an in-house program should be limited to preventive care.

Of course, one cannot expect conservator-quality work from a conservation technician. In larger institutions, a person with extensive training and experience should be hired in order to perform more advanced treatments, including—though not necessarily limited to—washing and deacidification, stain reduction, backing, tape and backing removal, working with colored inks and dyes, and binding restoration or repair.

In libraries, conservation is becoming closely related to collection development. This is not so easy in archives, which do not have as many options in rejecting poorly bound volumes, refusing to work with dealers who do not meet certain standards, or buying replace-

ments for items which have deteriorated from use. In a very real sense, what we have is what we keep. But in order to do this, archivists must commit themselves to conservation—and this involves some essential steps, mentioned here in summary.

1. Assign conservation as an official responsibility of a professional staff member, making its funding a line item in the budget.
2. Survey the facilities and holdings to determine needs and priorities.
3. Make conservation a routine part of archival functions, educating both staff and patrons concerning its significance.
4. Establish a strong preventive conservation program, giving special attention to storage furnishings, handling procedures, and environmental controls.
5. Establish and equip a work area compatible with the institution's needs and facility—in terms of budget, space, and level of expertise. Initial emphasis may be on protective enclosures.
6. Consider a microfilm program if one is not already functioning.

And, to sum everything up, "DO WHAT YOU CAN."

FOOTNOTES

1. Carolyn Harris, "Mass Deacidification: Science to the Rescue?" *Library Journal* 104 (July, 1979): 1423.
2. For a review of optical data-storage systems, see Herb Brody, "Materials for Optical Storage: A State-of-the-Art Survey," *Journal of Micrographics* 15 (January, 1982): 33-36.
3. Phone conversation with Larry Fugitani, Optimem Company, a Division of Shugart, wholly owned by Xerox, May 31, 1984.
4. Phone conversation with David Bearman, Smithsonian Institution, September 6, 1984.
5. Joseph Broadman, "Library Objections to Micro-Film" (New York: Broadman Press, 1939).
6. For a guide to retention policy, see *Intrinsic Value in Archival Material*, Staff Information Paper 21 (Washington, National Archives and Records Service, 1982).
7. Wayne C. Grover, "The Archivist's Code," *American Archivist* 18 (October, 1955): 307-308.
8. For an annotated listing, see "Audiovisuals for Archivists," compiled by Timothy L. Ericson and published in the July, 1982, issue of the *SAA Newsletter* (Society of American Archivists).
9. An excellent manual came out of the SAA Basic Conservation Workshops: Mary Lynn Ritzenthaler, *Archives and Manuscripts: Conservation, A Manual on Physical Care and Management* (Chicago: Society of American Archivists, 1983). Also very useful is Carolyn Clark Morrow, *Conservation Treatment Procedures* (Littleton, CO: Libraries Unlimited, Inc., 1982).

THE MIDWESTERN ARCHIVIST Volume VI, Number 2

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Funded in part by the National Endowment for the Humanities