

**FORMAL ENVIRONMENTAL STANDARDS FOR STORAGE OF BOOKS AND  
MANUSCRIPTS: A STATUS REPORT**

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I'm going to ask a series of rhetorical questions, and, in the nature of rhetorical questions, I am going to answer them, too.

**What are "voluntary standards?"**

The kind of voluntary standards that are the subject of my talk, and which I sometimes think of as "consensual," are just that--they are a set of specifications of some sort that have been arrived at by consensus. That is, a committee, often consisting of a group of people with different viewpoints or interests in the subject at hand, has drafted a set of specifications which are submitted to a process of comment and voting by interested parties. It is worth emphasizing that the terms "voluntary" and "consensual" denote that this type of standard is not created by a governmental body, and in itself has no legal force.

Another important aspect of such standards is that the elements specified in them should normally be measurable, so that when two or more parties have agreed to abide by the standards, compliance or lack of it can be relatively objectively determined.

Probably the most widely familiar standards are those issued and administered by the American National Standards Institute, known as ANSI. [SL] ANSI is actually in a sense an umbrella organization for promulgating and managing standards formulated by some 200 constituent technical, trade, and professional associations, of which the National Information Standards Organization (NISO) is one. It was through NISO and ANSI that the standards for permanent book paper that you may be familiar with were developed and issued.

By virtue of the broad base of consensus on which ANSI operates, ANSI standards have a degree of credibility that ones developed through another organization might not have. This credibility is also enhanced by mandatory review of all ANSI standards every five years, at which time they must be

either reaffirmed, revised, or withdrawn.

**What purpose do formal standards serve?**

In some cases formal standards can be, by mutual agreement, made legally binding--a fairly obvious example is residual hypo in microfilms. A library or archives having microfilming done by a service bureau can write into its contract that the films will have no more residual hypo than is specified in the relevant ANSI standard, as measured by the testing method specified in another ANSI standard. If the supplier has agreed to this provision but does not meet it, the purchaser can insist on compliance or void the contract. The formal standards provide a widely accepted point of reference.

The proposed environmental standards for storage of books and manuscripts, once broad consensus has been reached, could provide extremely valuable ammunition in at least two respects.

First, they can be used by conservation personnel to demonstrate to their administrations that there is an agreed-upon body of environmental specifications for the protection of collections. Second, once the administration is convinced, they in turn can use them as part of a building or renovation program. That is, planners, architects, and engineers can be shown that there is some consensus about environmental standards for the preservation of collections, and that the client is not just being naive or excessively fussy in their demands for certain conditions to be met.

**How did the proposed standards for storage of books and manuscripts come about?**

I have no desire to bore either you or myself with a recital of the whole long and rather complicated history of the drafting of the proposed environmental standards, but there are a few points that should be mentioned.

The project was started by the Library and Archives Committee of the National Conservation Advisory Council, of which I was chair, at the time that NCAC was being transmogrified from a deliberative body into the National Institute for Conservation, a "doing" body. A grant was obtained by David Shute from the National Historical Publications and Records Commission, an arm of the National Archives and Records Administration, for the expenses of committee meetings and, more to the point, to hire several consultants.

By some clever sleight-of-hand, the NIC committee also got itself

constituted as a committee of the National Information Standards Organization, which I call the secretariat of ANSI for libraries and information science, even though that description isn't strictly correct.

It is important to mention that the NIC/NISO committee was formed for broad representation of the membership organizations with the greatest interest in preservation of records collections--the American Library Association, Association of Research Libraries, Independent Research Libraries Association, American Association for State and Local History, and the Society of American Archivists. In other words, the committee was not made up of technical people--that was the role of the consultants.

The paper chemist William K. Wilson, retired from the National Bureau of Standards and volunteering at the National Archives, volunteered his efforts as a consultant, and the late Carl J. Wessel, who had published several important works on deterioration of library materials, was hired to undertake a literature search. This first phase resulted in a report of some hundred pages based on such laboratory research as existed on the effects of environment on records materials, and in a set of draft standards.

Wilson and Wessel's draft standard was then submitted for comment to three paid reviewers--Robert L. Feller, conservation scientist; Peter Waters, library conservator; and William P. Lull, building technology consultant.

It fell to me, with the help of the committee, to try to integrate the work of the consultants and the technical reviewers into a second draft. Through a process of comment from committee members and consultants that I myself no longer remember the details of, we got to a fourth draft, which was formally transmitted to NISO.

**What are the standards proposed?**

[Slides of five tables from the current draft, showing the major provisions of the proposed standards, were shown here]

**What is the status of the proposed standards?**

Because we had had intimations that there was going to be controversy about them, Patricia Harris, Executive Director of NISO, proposed that the draft standards be initially circulated for formal comment rather than for actual voting, which was done earlier this year. Twenty-eight replies to the request for comment from NISO members and other interested parties have been received.

Some of these were "no comment"--usually from members of NISO who are concerned with things other than research libraries and archives. The remarks of those who did comment run from "excellent" and "much needed" through suggestions for improvement of phraseology to ones that in effect pretty much dismiss the whole effort on the basis that there is inadequate research to support the specific recommendations.

The next step is for the NISO committee, of which I, with considerable ambivalence, seem to remain the chair, to review the comments that have been received and to try to respond to each of them in an appropriate way. The committee has not yet been able to study the comments, but it appears that in some cases response will be easy, and in others they will not be at all easy to deal with. When the committee and NISO feel that the comments have been adequately dealt with, the proposed standards will be submitted first to NISO and then to all ANSI members for formal voting.

There are three profoundly important issues underlying the most serious criticisms of the standards in their present form.

The first one is economic. Maintaining close control of environment is undeniably expensive, and depending upon a number of factors such as climate and the nature of the building involved, can be enormously expensive. For example, in a warm and humid climate maintaining RH as low as 35% in the cooling season can necessitate an entirely different--and very much more expensive--type of chilling system than needed for maintaining the humidity at around 50%. Conversely, in very cold parts of the country, maintaining RH as high as 50% may entail serious damage to the fabric of the building unless suitable insulation and vapor barriers are in place--again, quite an expensive proposition, albeit only part of the capital and operating costs of maintaining high humidity in cold weather. So we have the separate but interrelated questions of affordability--can the costs be afforded at all--and of cost-effectiveness--is the cost of lower or higher humidity, for example, economical in the long run by reducing other costs of preserving collections.

The other two major categories of objections are no less easy to deal with, in part because they involve questions of judgment.

A subtle and important one is the question of the extent to which the specific recommendation made--for example, both levels and permissible tolerances for temperature and relative humidity--can be supported from existing laboratory research, or for which a research project of thinkable size and cost can provide useful answers.

I should pause a moment here to state some truisms that for this audience don't really need stating. First, books and bound manuscripts are composite objects, made up of different materials with (among other things) different

hygroexpansivities. Second, these components are restrained by each other at some points and at others are free to expand and contract. Third, books and manuscripts must be handled in use. These factors make it difficult to really determine rates of deterioration of actual books in use--as distinct from individual component materials in the laboratory--in response to different environmental variables and in both storage and use.

When one remembers that there does not even exist at the moment an acceptable set of conditions for the accelerated aging of the single material paper, it forces one think about the limits of scientific research in solving complex, real-world problems. And as conservators, we must insist that research results are genuinely applicable to the question in hand. We are all familiar with what has been called the "Whatman No. 1 syndrome," and inapplicability reaches theater-of-the-absurd proportions when the results of work on the response to humidity of collagen powder is cited as evidence for suitable RH for the storage of vellum.

The point that I want to make here, and it is a subtle and sensitive one, is that there is a very large body of experiential evidence that has been amassed by conservators, and I feel very strongly that body of knowledge must be heavily relied upon until relevant and reliable laboratory experimental work is available. The exceptionally difficult judgemental issue--and I may say also political issue--is determining when experiential evidence and when experimental evidence should be followed in the event of disagreement.

There. I've gotten that off my chest.

Finally, some organizations are concerned that the proposed standards, although not in themselves legally binding, might impede obtaining government grants for institutions that did not meet the standards. Frankly, I believe that this is not likely to be a real issue; the government granting agencies that I am familiar with are realistic enough that while they may encourage compliance, they are not likely to require it.

To be sure, many institutions would not be able to meet good environmental standards for conservation of their collections in the short term; obtaining suitable conditions might have to wait for a generation or more until a new building can be built. But to have formal environmental standards to aim for will in the long term help substantially to improve the conservation of our collections of books and manuscripts.

I will leave you with a final rhetorical question: Isn't it at least as important to have environmental standards for original books and manuscripts as it is for microfilms?