

# Nonprint Materials: A Definition and Some Practical Considerations on Their Maintenance

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NEW IDEAS ABOUT LIBRARIANSHIP are important for a number of reasons. We have entered an era in which information has a tremendous bearing on the evolution of our society, and in which the library as a traditional information source has been challenged by new information providers. Technology has been directed to meet the information needs of society, methods have been developed for storing astronomical amounts of information in relatively small spaces, and information often can be retrieved almost instantaneously.

At issue in all this is the fundamental role of the library, since libraries, as social institutions, cannot remain unaffected by change. This is particularly the case with the emergent information technologies which challenge libraries to respond to technological change. A number of prominent library theorists have offered their own observations on this subject, observations that are as divergent as they are important.<sup>1</sup>

If we are to assess the library profession's response to technological innovation, we must include the role of nonprint collections in the overall picture. While there certainly has been an agreement in principle that information comes in a variety of forms, most libraries (especially academic libraries) have in practice done a poor job of handling nonprint materials. That little attention has been given to the conservation and preservation of media materials, in fact, typifies the basic neglect of nonprint materials themselves.

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## Nonprint Materials

In defining what constitutes a nonprint collection, it is important to distinguish among three words commonly attached to such materials—*media*, *nonbook*, and *nonprint*. Pointing out the various nuances of each term will facilitate a broader understanding of nonprint librarianship and how it is affected by the new information technologies.

*Media* is perhaps the most elusive of these. On the one hand, a medium is a liaison in which communication is transmitted from a sender to a receiver. Thus, language can function as a medium just as well as can tape recorders and microcomputers. However, *media* is also a term which applies to materials. *Media* materials are commonly considered to be those items through which a library user can access various types of information. Some of these materials (e.g., a record player) are unilateral insofar as the user is only a receiver. Others, a database for example, permit patron interaction. In each case the medium functions as a "middle ground" to the message. Within the larger communication spectrum, a third usage is often given to *media*—that is, "the Media." Our customary use of the term to describe the various mass communication channels illustrates how difficult it is to pin down a solid definition for *media*.

As with *media*, the terms *nonbook* and *nonprint* are problematic. On a basic level, both can be considered as species of the genus *media*. Yet *media*, as we have seen, is simply too broad an expression. *Nonbook* and *nonprint* must be differentiated with respect to their peculiar structure. There are two options in this regard. On the one hand all materials which are not paper (i.e., *nonbook*) may be placed in a special collection. This would include databases, microcomputers, microfilm, videocassettes, and records. This is not a *nonprint* collection but a *nonbook* collection. This solution is sufficient to the extent that it is useful to define the collection simply from a technical standpoint.

A second option seems more promising since it takes into account the types of *media* information and their relationship to the specific interests of users. *Nonprint* items would here satisfy a three-fold definition that at the same time separates them from *nonbook* materials in general. A *nonprint* collection then is distinguished from the purely technical information provision of *nonbook* in that it includes an *aesthetic* aspect. This is not to deny that videocassettes are helpful in conveying technical information (in their *nonbook* capacity), but merely to suggest that their *aesthetic* quality also qualifies them as *nonprint*.

## *Nonprint Materials*

What then is required for an item to be nonprint? As a matter of expediency and at the risk of being arbitrary, I propose here a threefold definition of a nonprint item:

1. The item must appeal to the sight and/or hearing of the library user.
2. Under normal conditions, the item must require additional equipment for usage.
3. The printed word must not represent the essence of the medium.

These three criteria are meant to establish the guidelines or parameters of a nonprint collection. Specific examples of materials meeting the criteria include videotapes, films, audiotapes, slides, transparencies, and filmstrips. While other formats may also fit this definition, the following discussion concerning conservation, preservation, and security will deal mainly with these materials. *Security* and *preservation* describe ways of keeping items from being stolen or vandalized and of preventing materials from deteriorating due to neglect. The two terms can be seen as interrelated. Security has to do with storage—that is, safeguarding materials and circulation. Conservation is also concerned with storage but here emphasis is on environmental considerations and proper handling. Both security and preservation seek to increase the longevity and enhance the care of library materials.

### **Conservation: Basic Considerations**

With respect to conservation, it is widely agreed that the most important factor is environmental control. As noted by Robert H. Patterson, “the physical environment in which materials are housed is the single most important factor for conservation.”<sup>2</sup>

When dealing with many media formats, no single temperature can be prescribed. Yet for the media being considered here, an approximate range can be established. Among the various authorities consulted, the highest temperature recommended for media formats was 75°F for videocassettes. This was defined as “room temperature” and also recommended for videotape.<sup>3</sup> Lower estimates ranged around 60-65°F. Magnetic tape, for instance, is given a range of 65-68°F,<sup>4</sup> while floppy disks can accommodate temperatures between 50° and 125°F. For the latter, however, the two extremes are not encouraged. Ideally then the temperature should be somewhere between 60° and 70°F, with 65°F the optimum for both humans and equipment.<sup>5</sup>

Whatever temperature is decided upon, it is important that it remain as constant as possible. Any fluctuation of more than a few degrees can harm materials. For this reason care should be taken in

deciding where to place the collection. Doorways, vents, and windows should be avoided. Location is not only important for temperature, but also for other environmental concerns. In all cases stability is crucial.

The temperatures already given were recommended particularly for materials that are actively being used in a library or information center. For an archival collection, however, the temperature range drops by about 10°F.<sup>6</sup> When materials are removed from long storage or when items are subjected to temperature fluctuations of more than a few degrees, they should not be used immediately. A process of "staging" is required which enables the displaced item to adjust to the new temperature. What this essentially means is that an item should be permitted gradually to reach temperature and other environmental conditions of the area in which it will be used.

Just as nonprint materials are sensitive to temperature, so they are to relative humidity. Again, there is no single relative humidity prescribed for all materials. However, a range of 45 percent  $\pm$  5 percent seems best in general with 47 percent as the optimum relative humidity. As relative humidity increases, metal items develop a propensity to rust and tapes become abrasive and cause excessive head wear.<sup>7</sup>

As *humidity* increases, films develop mold and fungus with increased potential for layer adhesion. In the extreme case the emulsion (picture) will peel off the film backing. As humidity decreases, film bases curl and become increasingly brittle.<sup>8</sup>

As with temperature, consistency is important and the relative humidity level for archival storage should be lower. If necessary, humidifiers or dehumidifiers should be employed to stabilize relative humidity levels. These temperature and relative humidity criteria also apply to equipment.

Dust control presents more of a problem. While no environment is completely dust-free, measures can be taken to minimize the effect. Air conditioning units with filtration systems are beneficial since they help clear the air of dust and other foreign substances. The location of the collection is an important consideration. By positioning both equipment and materials away from openings and vents, dust is less likely to have an adverse effect on the collection.

A final environmental consideration concerns sunlight and excessive fluorescent lighting, which can be extremely damaging to all types of materials. Slides, for example, will turn dull and brown or yellow when exposed to too much light. A floppy disk or a phonograph record left on the dashboard of a car will become useless. It is clear then that storage should not be near windows if at all possible. Not only are

## *Nonprint Materials*

windows potentially damaging in terms of light, but also they are a source of heat and condensation.<sup>9</sup> If materials must be housed near a window, the window should be tinted in a way that filters out the ultraviolet rays of the sun. Curtains are also an option although they might be opened by someone not aware of their purpose.

Although environmental concerns (such as light exposure and relative temperature and humidity) are extremely important, other factors are significant. The first of these relates to magnetic fields. Many nonprint materials are put on magnetic tape or housed in electromagnetic storage devices. As such these media are highly sensitive to any magnets and electrical motors. Consequently, these materials should not be housed or used near such fields. Gerald Gibson notes that, "the principal problem[s] associated with magnetic recordings are undesired erasing of the magnetic signal, separation of the emulsion from the base material, print through, and tape breakage."<sup>10</sup> Abbott and Salesi point out that, "audio and visual tapes placed within any magnetic field will either be erased or develop static."<sup>11</sup>

Most magnetic tapes have their own containers, as with audio- and videocassettes. While these containers can greatly reduce dust and sunlight damage, the problem of magnetism additionally requires that storage location be in an area free of magnetic fields. Storage shelves made of wood and/or nonmagnetic metal, free from vibration and shock are good options.<sup>12</sup> Storage racks should be electrically grounded. Also, if there are any other electronic fixtures or power lines in the area, a distance of at least two feet should be maintained between these and the items.<sup>13</sup> In addition, as Abbott and Salesi point out, there is a hardware/software distinction:

most pieces of equipment found in a (media) center have either speakers or motors [magnetic materials] (and) the media materials should be separated from the hardware except during use.<sup>14</sup>

Another factor to keep in mind when storing media materials is their positioning. It is widely agreed that all materials should be stored in a vertical position. Vertical storage will prevent warping of phonograph records and help protect tapes and film which can be damaged by the excess weight on their edges when laid horizontally.<sup>15</sup> Slides and photographs are also best stored vertically.

As with temperature and relative humidity controls, avoiding sources of magnetism and using vertical storage are not enough for proper preservation. Individual containers and storage cabinets are also important considerations especially for slides and prints. Photographs can be stored in various ways. Acid-free envelopes are a viable method as

are plastics. Plastics resist moisture and will not grow misty with age. Again sunlight is a key factor and interleaved acid-free black paper can help protect items from excessive light.<sup>16</sup> Cellulose acetate is commonly used as an interweaving material and functions effectively as a holder for prints. In addition, acetate sleeves can be employed for prints and negatives.<sup>17</sup> While sunlight is one of the major conservation concerns for photographs, moisture is also a serious problem. Fungi can form on photographic materials when the relative humidity factor gets near 60 percent.

Cabinets are useful for housing slides, prints, and negatives; along with other nonprint items. For photographic materials, "the cabinet should be made of steel, and its finish should be of baked enamel—the pernicious effects of the paint's resins and peroxide are eliminated by the baking process."<sup>18</sup> In all instances cabinet design should afford easy access and filing systems should be conducive for user entry.

As noted in the original definition of the nonprint item, further equipment is usually needed. In this case the software item—i.e., the nonprint item—is susceptible to damage from improperly maintained hardware. With magnetic tapes the tape players should have their heads cleaned and checked regularly thereby preventing static and minimizing scratching of the tape. Magnetic tape media as with "other members of the 'Picture' family, require direct contact of equipment and carrier in order to make data human readable and retrievable."<sup>19</sup> Yet the "picture family" is by no means exclusive. In addition, the same considerations apply to audiocassettes (or any other magnetic tape media).

Phonograph records make contact with the stylus of the player, of course, and if at all possible a quality stylus should be procured. "The most common extrinsic factor in disc deterioration is the dirty, or worn stylus."<sup>20</sup> The diamond stylus is expensive but is considered by some to be worth its cost in relation to its preservation value. An emerging way of "reading" phonograph records uses lasers. With laser discs there is no surface contact. However, laser technology is still rather new and quite expensive. The hope is that in the near future, libraries will be able to afford what the new technologies have to offer.

Despite the new technology, however, there is still a serious question surrounding the proper handling of materials. The human element is still the principal cause of material damage.

Handling involves both the user and the librarian. This means that the librarian first must know the procedures before educating the user on proper handling of equipment. In addition, if items circulate, patrons will be responsible for their care. Yet even if maintenance brochures are included with the materials, it is never certain that the

## *Nonprint Materials*

patron will read them. Also, since most nonprint items require additional equipment, proper handling extends to software and hardware.

The relation between user services and conservation is central and difficult. It is a somewhat paradoxical situation: The purpose of the library is to provide maximum services to a specific clientele, yet if loaning some items means their usefulness will be foreshortened, what can be done? Neither aspect of the paradox can stand alone and the dilemma is complicated by security considerations.

### **Security: Basic Considerations**

The problem of security for nonprint items has received little attention in the professional literature yet the problem remains a serious one. A good place to begin examining security measures is with the storage of materials, because storage methods have bearing on conservation and security. Establishing where media are housed in the library and providing policies and equipment on monitoring and stabilizing temperature and humidity does not necessarily mean that collection security has been assured.

Insofar as conservation has been considered when deciding upon storage procedures, security concerns should also figure in the process. Housing materials is an in-house operation. Storage implies keeping the materials in the library. Therefore, considerations here are primarily geared toward keeping materials so that they cannot be accessed or used without some assistance from a staff member. This is a basic difference between book and nonbook access. For books, the card catalog points to the appropriate location and the patron can go directly to it. With nonbook formats, however, giving the location of software will not suffice in many cases. A distinct nonprint access policy is made necessary by the limited availability of machines, the sensitivity of both the item and the equipment, and the incompatibility with nonprint media formats of electronic detection devices used for books. Measures should be taken that provide for the security of materials when the library is open but few staff are present. In "open stacks" media collections this could mean equipping fire doors with panic bars and door alarms. In "closed stacks" media collections, this could include a separate room or closet which may be locked. Cabinets and drawers housing materials in "closed stacks" also should have good locks.

Both conservation and security requirements should be considered when deciding how and where media will be housed, but proper housing of materials does not by itself resolve the problem of securing nonprint items. While the collection should be accessible, it also is

important that it remain intact. Lamentable though it be, people do steal and a nonprint collection requires consistent monitoring. Monitoring a collection to reduce and prevent theft, however, does not mean that the library needs a fortress for its nonprint collection. A library exists to serve its users, and consequently the collection should be as accessible as possible.

A technical problem underlying the need to monitor concerns "magnetism." Juxtaposition with other magnetic fields will erase or garble a floppy disk, an audio- or videocassette, and other nonprint items that are carried on electromagnetic media. Security systems used in most libraries operate by electronically detecting magnetized strips that have been inserted in library materials. If someone attempts to leave a library with a book that has not been "desensitized," an alarm will sound. However, if the same magnetic strip were placed on a video or audiocassette, "desensitizing" the strip would also erase or garble the tape. Thus an open stacks policy would permit anyone to walk out with cassette, or it would require setting up circulation and theft detection procedures requiring that media materials be inspected by staff members posted at the exits, and media would bypass the electronic security system after inspection. There is no library theft detection system available at this time that protects nonprint materials carried in electromagnetic media.<sup>21</sup>

A related problem concerns the difficulty of placing a "strip" or "target" of some kind on the item itself. If a system were developed that accounted for magnetism and used some other means of detecting a material that had not been checked out, there still would remain the problem of marking the item in such a way that patrons could not tell where or how the detection system works. With books, the "strip" can be hidden in the spine or even between pages as with periodicals. But where would a strip or target go on a videocassette? On the casing?

Surely not, for the casing can be removed from the item. The same holds for floppy disks.

In short, most nonprint items are not conducive to the security measures that are applied to books. The incompatibility of book and nonbook security considerations suggests that security for nonprint collections requires a solution that is idiosyncratic to the particular library. Applying the technology suitable for book security will not do. Nonprint security necessitates a more comprehensive approach that accounts for the collection on its own terms—i.e., measures sensitive both to the user and purpose of the collection. Security in this sense is not a technical problem so much as it is a human problem requiring rational judgment.

## *Nonprint Materials*

### **Circulation Policy and Security**

In order to arrive at a common ground between security and service, a circulation policy has to be developed that takes both into account. The fundamental consideration in any circulation policy is whether or not items will be permitted to leave the library. Decisions concerning this aspect are further influenced by the facilities available in the library, the size and purpose of the collection, and the extent to which patrons can be expected to return the item. In addition, any policy is affected by the size of the staff and the availability of the collection (i.e., the number of hours the collection is open). Some policies may allow some items to circulate outside the library while only allowing in-house use of other formats.

There is no absolute criteria to which a librarian can refer in developing a policy, nor do any of the factors previously outlined preclude a decision by the librarian to make an exception. Yet an examination of these factors may shed light on some of the underlying considerations in formulating a policy that reflects both patrons need and collection security.

Presumably the media collection in an academic library has been developed with the curriculum in mind, and the community of users has a genuine need for the material. The need consideration is the frequency of use in relation to the equipment available in the library. If consistently there is a line waiting to use the videocassette players, for example, it should be decided that either more videocassette players are needed or perhaps that videocassettes should be allowed to circulate. But the solution is not simply a case  $x$  or  $y$ . Financial considerations limit the decision to buy more playback equipment; whereas user education, classroom usage priority, and patron honesty affect the decision to allow media to circulate.

A strict in-house circulation policy has certain built-in advantages. For one, the patron is using the material on equipment that is familiar to the library staff. If a problem should arise, the library staff can confront it when it occurs. For instance, if a videocassette is caught in a machine, a library staff member who knows how to use the equipment likely will cause less damage in extracting the cassette than would the novice. Requiring users to leave their university "ID" cards at the desk before being given the media they want to use further insures that nonprint items will not leave the building. In-house use places the librarian in the role of informal educator, showing patrons how to use the equipment and helping users discover various information formats as the need arises.

In universities where nonprint materials frequently are used as teaching aids, it is important to have materials on hand. When educational media collections are up-to-date and have been selected in response to curriculum needs, staff in the library's nonprint division may be quite busy, arranging classroom use of materials. When the same items are permitted to leave the library their value in the classroom is in limbo. Even honest patrons—and most are—are not immune to accidental loss. Here security measures are not sufficient. As soon as the item is checked out it is the patron's responsibility to see to it that it is returned intact and in good condition. But what if the item is lost or damaged beyond repair? The library is reimbursed for the item, but that does not help the professor who wanted to use it in class. As a result the class suffers and the nonprint service is undermined by circumstances that it did not create but for which it is nonetheless responsible.

Within the context of the academic library, policy makers must remember that the purpose of the library is to provide information services which uphold the educational standards of the institution. In this sense, classroom use and reserve items for class assignments have priority over the desires of individuals. Here the security task is to insure that the materials are in the collection when needed. Yet circulation policy should not necessarily be subordinate to security measures and budgetary considerations. It is easy to envision a scenario which includes effective security measures for protection of valuable items that at the same time alienate the library's clientele. Such a policy, of course, defeats the purpose of the library. The in-house policy, then, cannot be applied in a strict sense. What is needed is a set of borrowing procedures that provides a degree of latitude with respect to the character of the collection. In making judgments about which formats can circulate and which cannot, the librarian must take into account many factors including value of the item, demand, and security considerations.

### Conclusion

Conservation introduces certain considerations related to storage. Where and how materials are housed also has ramifications for security. Likewise, both security and conservation are concerned with protection. Conservation measures are designed to protect the materials from "natural" erosion. Security focuses on protection against human problems such as theft and vandalism.

Circulation is central to security because materials must first be in hand to be stolen or vandalized. The problem of not having an adequate technical answer to the security of magnetic materials introduced a

## *Nonprint Materials*

dilemma of the accessibility of materials. Circulation policy is also of crucial importance because it points back to the library patron. This "pointing back" includes reassessing the basic principle of libraries as user-oriented. Where a circulation policy is entirely ruled by security or conservation concerns, it can be considered to be out of character with this basic principle. However, circulation policy cannot be precluded from discussion surrounding the development of security and preservation.

Nonprint collections have many distinctive features that separate them from book collections. The recognition of these particularities is borne out when a comprehensive approach is employed by a practicing librarian. Questions include the structure of the materials, the possibility of their emergence as both information and art, and their interrelatedness with traditional library areas (e.g., security, conservation). It is this latter aspect that needs more attention, especially security concerns. As these questions are approached from a comprehensive perspective by a practicing librarian, theory meets practice. It is this approach, I feel, that is an incumbent responsibility for librarians in a highly volatile era of the profession. If we ourselves cannot account for and question the conditions of our place in society and history, we run the risk of becoming anachronistic. Where we have the courage to examine critically our relevance we will establish a firm foundation for applying our skills.

## **References**

1. In particular, Vincent Giuliano has expressed a need for a transformation within the library profession. In response to the emerging technologies and "information explosion," change will depend upon the outlook of librarians themselves. As Giuliano notes: "For some, the shift in perspective may mean working outside the library; for many, it may mean transforming a library institution." See Giuliano, Vincent E. "Manifesto for Librarians." *Library Journal* 104(15 Sept. 1979):1840.
2. Patterson, Robert H. "Organizing for Conservation." *Library Journal* 104(15 May 1979):1117. Patterson's approach clearly articulates an awareness beyond technical control. Developed here are ten "charges" for organization along with corresponding bibliographical references.
3. "Videotape Tips." *Media and Methods* 21(Nov. 1984):6.
4. Gibson, Gerald D. "Preservation of Non-Paper Materials: Present and Future Research and Development in the Preservation of Film, Sound Recordings, Tapes, Computer Records and Other Non-Paper Materials." In *Conserving and Preserving Library Materials*, edited by Kathryn L. Henderson and William T Henderson, pp. 89-110. Urbana-Champaign: University of Illinois, Graduate School of Library and Information Science, 1983.
5. Abbott, Andrew D., Jr., and Salesi, Rosemary A. "Preserve Your Media Collection Today." *Audiovisual Instruction* 24(Sept. 1979):30 (see graph).
6. Gibson, "Preservation of Non-Paper Materials," p. 101.

7. Abbott, and Salesi, "Preserve Your Collection Today," p. 30.

8. *Ibid.*, p. 29.

9. *Ibid.*, p. 30.

10. Gibson, "Preservation of Non-Paper Materials," p. 102.

11. Abbott, and Salesi, "Preserve Your Collection Today," p. 31.

12. Some writers see wooden shelves as problematic due to their propensity to warp.

For the magnetic problem, wood shelves will suffice. Warpage of wood is tied in with environmental control and can be seen as subordinate to environmental concerns. Insofar as videocassettes have their own casing, the major consideration is with magnetism. The videocassette itself will not warp if it is stored on a warped shelf. Yet the point about shelving is another area of consideration that should be taken into account.

13. Swartzburg, Susan G. *Preserving Library Materials: A Manual*. Metuchen, N.J.: Scarecrow Press, 1980, p. 104.

14. Abbott, and Salesi, "Preserve Your Collection Today."

15. *Ibid.*, p. 31.

16. *Caring for Photographs* (Life Library of Photography). New York: Time-Life Books, 1972.

17. *Ibid.*, p. 108.

18. *Ibid.*, p. 106.

19. Gibson, "Preservation of Non-Paper Materials," p. 94.

20. Swartzburg, *Preserving Library Materials*, p. 100.

21. After writing to a number of companies that advertised library security systems, none responded to my request for information concerning the problem of magnetism. In lieu of an electronic answer to nonprint security, human judgment is required.