

6-1-2005

Preservation Considerations for Digitization of Archival Materials

Sammie L. Morris

Purdue University, morris18@purdue.edu

Follow this and additional works at: http://docs.lib.purdue.edu/lib_research

Morris, Sammie L., "Preservation Considerations for Digitization of Archival Materials" (2005). *Libraries Research Publications*. Paper 14.

http://docs.lib.purdue.edu/lib_research/14

This document has been made available through Purdue e-Pubs, a service of the Purdue University Libraries. Please contact epubs@purdue.edu for additional information.

Preservation Considerations for Digitization of Archival Materials

When starting digitization projects, preservation is often mentioned as one of the goals and benefits of the scanning function. In particular, computer technology literature frequently stresses the importance of “backing up” precious documents and photographs by scanning them and placing them onto CDs or other media. The implication of this literature is that the paper copy may be destroyed, or even willingly thrown away, but the scanned version will live forever. This is a troubling belief, particularly when it is shared by administrators, patrons, and sometimes even by our colleagues in the library community. Part of the problem relates to the inherent appeal of digitization. It is an activity in libraries and archives that is well supported by granting agencies and administrators for its mass sharing capabilities and its publicity-generating power. Yet, to archivists concerned not only with documenting the human record, but preserving the artifactual evidence and intrinsic value of original materials, the increasing pressure to jump on the digitization bandwagon is often viewed with skepticism. But is there a middle ground? Can digitization serve a preservation function? This issue is still under debate, and it is important for archivists to remain informed as technology changes.

For archivists dealing with electronic records, the permanent accessibility of the electronic information is of utmost concern. This is not only an issue of the longevity of the media on which the information is stored, but also the ongoing obsolescence of computer hardware and software to read the information. Likewise, digital media is ephemeral, and digital files must be maintained, backed up, refreshed, and migrated on a regular, ongoing basis to remain accessible with current hardware and software. Digitized items cannot be viewed without computer

equipment and software, and some electronic information can be easily manipulated, making items extremely difficult to authenticate (although there are current initiatives to increase authentication for electronic records. See, for example, the National Archives of Australia's *Recordkeeping and Online Security Processes: Guidelines for Managing Commonwealth Records Created or Received Using Authentication or Encryption*, May 2004). For these reasons, the act of digitization is still not considered a preservation standard, although standards do exist for digitization practices. According to Janet Gertz, in "Selection Guidelines for Preservation," digital files "reside on unstable media and must survive repeated processes of migration or perhaps emulation which have yet to be fully worked out, and which require long-term commitment to funding of perpetual maintenance.... The consensus among most American preservation officers is that digitization alone does not constitute preservation." (Joint RLG and NPO Preservation Conference, Guidelines for Digital Imaging. Accessed February 17, 2005: <http://www.rlg.org/preserv/joint/gertz.html>.) Despite these drawbacks, digitization remains appealing to archivists as a means to greatly enhance access to collection materials. Digitization allows for remote access by simultaneous users of often hidden, or difficult to access collections. It garners publicity for institutions, allowing them to showcase their rare and unique holdings online. Unfortunately, there is still the misconception by some that digitization equals preservation in and of itself. The potential impact this attitude could have on the archives of tomorrow remains to be seen.

Digitization must not be viewed as a substitute for other preservation activities. For those responsible for the longevity of collection materials in an age of technological flux and uncertainty, microfilm remains, for now, the preferred long-term preservation medium. Those

institutions that can afford to may combine the advantages of scanning for access purposes with the preservation benefits of microfilming by using the model of hybrid conversion. According to Abby Smith, hybrid conversion involves “creating preservation-standard microfilm and scanning it for digital access purposes, or, conversely, beginning with a high-quality scan of the original and creating computer-output microfilm (COM) for preservation purposes.” (“Why Digitize?” Council on Library and Information Resources, February 1999. Accessed February 17, 2005: <http://www.clir.org/pubs/reports/pub80-smith/pub80.html>.) Valuable materials, such as rare and unique archival documents, photographs, and artifacts, must be retained in original form regardless of the existence of digital or microform surrogates.

This is not to say that digitization is without preservation benefits. Creation of digital surrogates can serve to enhance existing preservation efforts by reducing the handling of original materials. This can be especially beneficial for decreasing wear and tear to fragile or unusually rare, valuable items. Decreased access to originals also helps protect items from potential theft or mutilation, and digital surrogates can serve as backups in case the originals are lost in a disaster or theft. For this reason, it is advisable to store backups of digitized materials in a separate location from the originals. Managers of digital collections should take steps to ensure that their digital files will remain accessible over time. This requires an organizational commitment to the ongoing maintenance (and resulting cost) of the digital collection. Ongoing maintenance includes such functions as data entry and data cleaning, ensuring the usability of access applications, regularly accumulating statistics, providing support for end-users, upgrading server hardware and operating system software over time, maintaining server security, and ensuring that restoration of applications and data from backups is always possible. (NISO Framework Advisory Group. “A

Framework of Guidance for Building Good Digital Collections.” Bethesda, MD: NISO Press, 2004. Accessed March 15, 2005: <http://www.niso.org/framework/Framework2.html>.) In

addition to ongoing maintenance functions, it is advisable to print out copies of frequently used items once they have been scanned. This provides an additional backup in case the original or digitized versions are lost to disaster or theft. It also allows users who may not be comfortable viewing materials on a computer to utilize the printed scan instead of the original item.

Unfortunately, projects that are designed to reduce handling of originals are only successful if users are then required to utilize the scanned or printed version of an item, instead of the original. This can be difficult to implement depending on the users of the institution and what they have been allowed access to in the past. Naturally, there may be rare occurrences when a researcher will still need to view the original, but the majority of users can satisfy their needs using a digital surrogate or facsimile.

Before scanning an item, the effects of digitization upon the item should be considered. For example, if there is concern that the scanning process itself could damage the item, one might choose to photograph the original item, then scan the film version instead of the original.

Automatic sheet feeding scanners are fast and efficient, but they can destroy brittle paper.

Digital cameras can subject light-sensitive materials to prolonged light exposure. As John F. Dean writes, “Every digital imaging project concerned with the capture of artifacts must involve the preservation of the digital image *and* the original artifact and, at the very least, digitization should do no harm to the original source document.” (“Digital Imaging and Conservation: Model Guidelines,” *Library Trends*, Vol. 52, No.1, Summer 2003, pp.133-137.) For items that are

difficult to access, rapidly deteriorating, or at risk of obsolescence due to the media on which they are stored, digitization can provide or enhance access.

Several factors should be considered prior to devoting staff time and funding towards digitization of collection materials. The following preservation questions should be addressed prior to digitizing an item:

- Is the item fragile or in need of special handling?
- How much handling can the item withstand?
- Would the scanning process cause irreparable harm to the item?
- Does the item need to receive conservation treatment prior to scanning?
- Is the item stored on a medium that is currently difficult to access, deteriorating rapidly, or in danger of obsolescence?
- Can the item be captured adequately in digital form, in order to serve as a surrogate for the original?
- How will the item be safeguarded during the digitization process?
 - Will items in the process of being scanned be stored in a secure, environmentally stable location during open and closed hours?
 - Will items be protected from light, heat, moisture, food, drink, and other sources of damage during the digitization process?
 - Will those responsible for the scanning be trained in handling rare, original materials? Will they wear gloves?
- Will access to the original item be restricted after digitization, thereby reducing handling of the originals?

In summary, digitization has much to offer archivists in terms of increased access to holdings and generating prestige for archival institutions. By placing digital images of collection materials online, an institution can broaden its user base, remain open twenty-four hours a day to simultaneous researchers around the world, and entice donors to contribute their precious collections to an archives. Yet, until a mechanism exists for timely and cost-efficient permanent storage of digital files, archivists would be wise to hang onto their microfilm.

Sources Cited

Dean, John F. "Digital Imaging and Conservation: Model Guidelines," *Library Trends*, Vol. 52, No. 1, Summer 2003, pp. 133-137.

Gertz, Janet. "Selection Guidelines for Preservation," Joint RLG and NPO Preservation Conference, Guidelines for Digital Imaging. Accessed February 17, 2005 from <http://www.rlg.org/preserv/joint/gertz.html>.

National Archives of Australia. Recordkeeping and Online Security Processes: Guidelines for Managing Commonwealth Records Created or Received Using Authentication or Encryption. Commonwealth of Australia, May 2004. Accessed March 30, 2005 from http://www.naa.gov.au/recordkeeping/er/security/recordkeeping_online_security.pdf

NISO Framework Advisory Group. "A Framework of Guidance for Building Good Digital Collections." Bethesda, MD: NISO Press, 2004. Accessed March 15, 2005: <http://www.niso.org/framework/Framework2html>.

Smith, Abby. "Why Digitize?" Council on Library and Information Resources, February 1999. Accessed February 17, 2005: <http://www.clir.org/pubs/reports/pub80-smith/pub80.html>.

Sammie L. Morris is Assistant Professor of Library Science and Archivist at Purdue University.

She may be reached at Morris18@Purdue.edu.