DOCUMENT RESUME

ED 384 352 IR 055 485

AUTHOR Weiner, Rob
TITLE Archives and Automation: Issues and Trends.
PUB DATE May 95
NOTE 13p.
PUB TYPE Information Analyses (070)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Access to Information; *Archives; *Automation; Bibliographic Records; Cataloging; Computer Networks; *Information Technology; Optical Data Disks; Records (Forms); *Records Management
IDENTIFIERS American Memory Project (Library of Congress); *Internet; Library of Congress; MARC

ABSTRACT

This paper focuses on archives and automation, and reviews recent literature on various topics concerning archives and automation. Topics include: resistance to technology and the need to educate about automation; the change in archival theory due to the information age; problems with technology use; the history of organizing archival records using automation; and the use of and problems with MARC (Machine Readable Cataloging)-AMC (Archival and Manuscripts Control) records for archives. The American Memory Project is an example of how the technology of today is used to make collections more accessible to the general public. Library of Congress archivists organized a collection of historical materials on a CD-ROM in Macintosh format. This multi-media, automated archival project contained such items as political cartoons (1770-1981), early sound-bytes from American leaders (1918-1920), early motion pictures from New York City (1898-1906), and many other collections. It offers Boolean keyword searching and user friendly access to MARC records. Archivists are beginning to see the value of the Internet in their organizational efforts, and several additional examples of archival use of the Internet are cited. (Contains 24 references.) (MAS)

Archives and Automation: Issues and Trends

by Rob Weiner

May 1995

Submitted by:

Robert (Rob) G. Weiner
3213 76th Street
Lubbock, Texas 79423
(806) 799-6636

Background information:

1. B.A. and M.A. in History from Texas Tech University
2. Library Specialist with Texas Tech University
3. Currently working on an MLS degree from the College of Library and Information Sciences, University of North Texas
4. Primary areas of interest include the history of popular music and popular culture.

Archives and Automation: Issues and Trends

"Virtually any archival record no matter how esoteric or bizarre might be put to use ..."[1]

Using automation and computers in the organization of archives is not a new idea. In 1948 Murray G. Lawson foresaw the use of machines by historians and archivists to index collections.[2] In 1969, James B. Rhoads pointed out that the computer could help in the organization of the "archivist's inquiring mind and the sources of information at his disposal." He even prophesied that "finding aids and reference tools for an archives will be put .... into a single data bank."[3] Indeed archivists have come a long way in their quest to automate and use the computer since these early predictions. Today, many archives have on-line catalogs with machine readable bibliographic records. Some have even begun to put their finding aids on the "information super highway" of the Internet in order to make their collections more accessible to the general public. The program for the 58th Annual Meeting of the Society of American Archivists had no less than thirteen sessions devoted to automation in archives; archival automation is becoming more and more important.[4] This paper focuses on archives and automation, and reviews recent literature on various topics concerning archives and automation. The topics covered include the need to educate archivists

---

1 James O'Toole, "The Symbolic Significance of Archives," American Archivist. 56: 2 (Spring 1993): 238.

2 Murray G. Lawson, "The Machine Age in Historical Research," American Archivist. 11: 2 (April 1948): 141-149.

3 James B. Rhoads, "The Historian and New Technology," American Archivist 32: 2 (July 1969): 211-212.

4 Society of American Archivists, 58th Annual Meeting Program--Indianapolis, Indiana (September 5-11, 1994).

about automation, the change in archival theory due to the information age, the use of MARC-AMC records for archives, and, briefly, how, by citing an example, the technology of today has been used to make collections more accessible to the general public.

Although, in the mid-nineties, automation is used to organize and make collections more palatable to the general populace, there is still tremendous resistance on the part of archivists to many of the technologies that have come about. In 1984, Richard M. Kesner pointed out that, if archivists are to survive and prosper in the information age, they must be receptive and flexible to the changes brought about by the shifts in technology.[5] Although the Society of American Archivists (SAA) has pushed for automation since the sixties, archivists still seem to be at a crossroads as to how they can learn about and use the current trends in automation. As one author points out, "It is up to the archivists themselves to learn computer literacy ... [and] not wait for the SAA to provide ideal training ... ."[6] This reluctance to become computer literate has become one of the "largest obstacles" in the path of archivists of the late twentieth and upcoming twenty-first centuries.[7] Indeed, another author argues that it seems as though archivists in underdeveloped nations are more anxious to learn about the computer than archivists in the United States.[8]

5 Richard M. Kesner, Automation for Archivists and Record Managers: Planning and Implementation Strategies. (Chicago: American Library Association, 1984): 5

6 Linda J. Henry "An Archival Retread in Electronic Records: Acquiring Computer Literacy," American Archivist. 56: 3 (Summer 1993): 520.

7 Henry, 515.

8 Frederick J. Stielow, "The Impact of Information Technology on Archival Theory: A Discourse on an Automation Pedagogy," Journal of Education for Library and Information Science. 34: 1 (Winter 1993): 51.

Now that it is widely accepted that there is "low level" of computer training for archivists, and that archivists have not "fared well" in working with automation and electronic records,[9] what are some of the suggestions for solutions to this problem? The literature surveyed suggests that simply sending archivists to three hour seminars and weekend workshops does not teach them all they need to know in order to use automation to organize their collections effectively. Too much time has been spent thinking in terms of "workshops and institutes" that do not embrace the content and understanding of what automation has to offer.[10] Graduate programs in archival education that contain an automation component are needed. In spite of the SAA endorsement of a graduate curriculum that includes automation training, there is "little commitment to introducing these subjects to archival graduate students."[11] Richard Cox suggests that a "battery of courses that cover basic archival functions on automated techniques and electronic functions" is needed.[12] Others argue that "integrated instruction," which includes automation would greatly broaden and expand archival education.[13] Another important underused resource that working archivists often neglect is continuing education, a valuable resource

---

9 Leon J. Stout and Donald A. Baird, "Automation in North American College and University Archives: A Survey," American Archivist 47: 4 (Fall 1984): 403; Richard Cox, "The Role of Graduate Schools and Continuing Education Programs in Preparing Archivists in North America for the Information Age," American Archivist 56: 3 (Summer 1993): 446.

10 Toni Carbo Bearman, "The Education of Archivists: Future Challanges for Schools and Information Science," Journal of Education for Library and Information Science. 34: 1 (Winter 93): 70; Terry Eastwood "Educating Archivists About Information Technology," American Archivist. 56: 3 (Summer 1993): 464.

11 Cox, 448.

12 Cox, 452.

13 Eastwood, 463.

for maintaining skills and improving knowledge.[14] Although there are those who suggest that basic computer understanding has no place in graduate archival education,[15] clearly there is a need for archival programs to provide some sort of automation and computer training. Another possible solution is for catalog librarians and archivists to come together and learn automation and historical techniques from each other.

Archival theory makes no distinction between records on the basis of form or medium. In theory there is no justification for archivists to view electronic records as a separate component from traditional archival materials such as manuscripts, photographs, or books.[16] This may be the theory, but the practice is entirely different. One reason archivists have been so reluctant to learn and use automation (aside from the funding and staffing problems so prevalent in archives), is that archival theory has traditionally stressed paper and parchment records. Archivists have clung to a sort of pre-1950s mentality.[17] One scholar was shocked to find that a recently built state archives in Florence, Italy had almost no automated organization of its collections. The inventories and finding aids were still in handwritten form.[18] It is obvious that such reluctance to automate can turn an archive into an antiquated institution. No one is suggesting that paper and manuscript

---

14 Cox, 456.

15 Stielow, Journal of Education for Library and Information Science, 53.

16 Eastwood, 462.

17 Frederick J. Stielow, "Archival Theory and the Preservation of Electronic Media: Opportunities and Standards Below the Cutting Edge," American Archivist. 55: 2 (Spring 1992): 334; Kesner, 7.

18 Ronald F. E. Weissman, "Archives and the New Information Architecture of the Late 1990s," American Archivist. 57: 1 (Winter 1994): 34

collections are going to go away, but, with much information now being produced in paper-less form, do not archivists have a responsibility to maintain this information as well? Is there not a need to evaluate, study, credit authorship for, and maintain provenance of electronic records?[19] Since the computer is changing the way people think, archivists also need to document and evaluate this aspect of society.[20] The same theoretical principles apply for digitized versions of collections. Finding aids and descriptors for digital collections are the next step in archival organization.[21] It will be just as important for archivists to archive the "information age" as it is for them to preserve a civil war manuscript or a biblical text!

There are, of course, obvious problems associated with the information age with which archivists must deal. Much of the equipment becomes obsolete very fast, and maintenance is both costly and time consuming. It is difficult to preserve many machine readable, magnetic tapes and other digital and analog forms of recorded media, which have a limited life span. However, the archivist's job, by its very nature, is to preserve and organize such information.[22] It is possible that such information could be preserved in digitized form. As one archivist suggests, "Not all computer records need to be digitally saved ... some may be better routed to paper or to something like COM (Computer Output

---

19 Terry Cook, "From Information to Knowledge: an Intellectual Paradigm for Archives," Canadian Archival Studies and the Rediscovery of Provenance. Metuchen, N. J.: Scarecrow Press, 1993: 208-209.

20 Stielow, Journal of Education for Library and Information Science, 59.

21 Avra Michelson, and Jeff Rothenberg, "Scholarly Communication and Information Technology: Exploring the Impact of Changes in the Research Process on Archives," American Archivist. 55: 2 (Spring 1992): 294.

22 Stout, 400.

Microfilm) with ... indexable headers retained on-line."[23] With the rise of the Internet and the "transient nature of network communication," it is up to archivists to seek funding and preserve valuable records related to the "administration of ... network mediated scholarship."[24] Since scholars will eventually expect integrated access to materials, regardless of format or the types of repositories in which they are stored, archivists will have to decide what will be preserved or be "subsumed" by other professions.[25]

Attempts to organize archival records using automation began in the early sixties. One of the most famous of these projects was SPINDEX II, which was begun in 1967. "The Council on Library Resources funded a two year project in the National Archives to expand the original Library of Congress card-based system into a tape-based system, with more fields to retain the features of numeric tags and the hierarchic arrangement of entries."[26] The goal was to produce a series of computer programs that any archivist could use. While the project met with some success, it opened a whole set of questions and possibilities as to the use of computers to help organize archival collections.

It was not until the development and application, in 1981, of the MARC (MAchine Readable Cataloging) bibliographic format for archival collections that the practicalities of automation became apparent.[27] Despite being one of the last MARC formats developed, MARC-AMC (Archival

---

23 Stielow, American Archivist. 336.
24 Michelson, 295-296.
25 Lisa B. Weber, "Educating Archivists for Automation," Library Trends. 36: 3 (Winter 1988): 516
26 Thomas Elton Brown, "The Society of American Archivists Confronts the Computer," American Archivist. 47: 4 (Fall 1984): 369.
27 Jane Gottlieb "Sharing Information on Archival Collections," Fontes Artis Musicae. 40: 3 (July/Sept, 1993): 229.

and Manuscripts Control) has earned both criticism and praise. One of its benefits is the use of multiple notes fields. This allows the archivist to take an organized collection and "incorporate extensive summary and content notes statements." AMC is not "media specific" and can be used to describe collections in various formats (papers, manuscripts, etc.) along with books.[28]

Since a number of institutions are loading MARC-AMC descriptors into the on-line catalogs, along with traditional library materials, archival collections have greater potential usefulness than ever before.[29] However, studies have shown that MARC-AMC records often are neither understandable nor sufficient for the average user. One of the problems is in the nature of the manuscript itself. The average patron has difficulty sensing the difference between a manuscript or documents collection and a book. Often patrons expect to be able to get to the information in a collection quickly, not expecting to have to go through boxes and boxes of material. A possible solution to this problem is a more standardized way in which archivists do subject indexing for collections. The process of determining which terms are the most important to access is difficult but necessary.[30] As one archivist points out, "identification of format, scope, and subject content of materials described becomes crucial for quality reference service." Subject access does not have to be based on generic topics, but can be

---

28 Gottlieb, 230; Fredric M. Miller, Arranging and Describing Archives and Manuscripts. Chicago: Society of American Archivists, 1990: 114, 121.

29 Robert P. Spindler and Richard Pearce-Moses, "Does AMC Mean "Archives Made Confusing"? Patron Understanding of USMARC-AMC Catalog Records," American Archivist. 56: 2 (Spring 1993): 330-341.

30 Jackie M. Dooley, "Subject Indexing in Context," American Archivist. 55: 2 (Spring 1992): 345, 348.

"specifically named persons, organizations, places, [and] events ... ." As Jackie M. Dooley points out, for users to have direct access to archives and manuscripts, and understand the information presented in the record, it is "necessary" for archivists/catalogers to develop some sort of thesaurus with "guidelines to archival content and subject indexing."[31] The reality of shared databases provides the archival profession a means to organize and build a universal, standard subject guide. Nevertheless, the MARC-AMC format has been very helpful in allowing a greater access to archival collections than ever before. With the push for more coherent subject indexing and description, this should help users decide whether an archival collection is what they need. Although used primary by the staff of institutions, bibliographic utility databases like RLIN (Research Libraries Information Network) have been especially helpful to archivists. Implementing the MARC-AMC format, RLIN allows users to search materials by personal or corporate names. It has been used increasingly as a reference database to find "information about record creators as well as about records reported to it."[32]

The American Memory project is one of the most exciting new projects designed to make archival collections more available. American Memory was developed in 1990 with the goal of making history come alive for the user. Library of Congress archivists organized a collection of historical materials on a CD-ROM disc in Macintosh format. This multi-media, automated archival project contains items such as political cartoons (1770-1981), early sound-bytes from American leaders (1918-

31 Dooley, 345-346.
32 Mary Jo Pugh, Providing Reference Services for Archives and Manuscripts Chicago: Society for American Archivists, 1992: 35.

1920), early motion pictures from New York City (1898-1906), and many other collections. It provides user friendly access to the MARC records and Boolean keyword searching. By clicking on the right icon, the user can, in a sense, "see history as it actually happened."[33] While this collection does not pretend to provide a "comprehensive chronological view of each historical period," it does provide access to materials that have previously been unavailable to the general public.[34] Jean Armour Polly points out that the potential of projects like American Memory could eventually bring all of the Library of Congress archives (and many others) to anyone, anywhere in the world.[35]

Archivists are beginning to see the value of the Internet in their organizational efforts. Archival presence on the Internet is "essential if archivists are to establish credibility as legitimate network collaborators."[36] Indeed Rhoads' vision of having finding aids on the computer has been realized. Archives in institutions like Harvard and Yale are putting their finding aids on the Internet. In addition to a description of the collection, and scope and content notes, there may be a box-by-box listing of materials. The Southwest Collection at Texas Tech University is in the process of putting finding aids for some of its collections on the Internet via a Gopher server. While putting the finding aids into a digitized format will require scanning older

---

33 Jean Armour Polly and Elaine Lyon, "Out of the Archives and into the Streets: American Memory in American Libraries," On-line. 16: 5 (September 1992): 51.; Harriet Hagenbruch, "American Memory-History Meets the Age of Technology," Library Software Review. 13: 1 (Spring 1994): 35-36.

34 Kenneth H. Bacon "Scrolling Through the Libraries of the Future," New Library Scene. 9: 3 (June 1990): 5.

35 Polly, 57.

36 Michelson, 290.

inventories and inserting new descriptors, it will make materials more readily available for both staff and patrons.[37]

The future of organizing collections in archives through the use of automation has many exciting possibilities. This paper has been an attempt to document and present some of the problems, solutions, issues, and case studies involved in archival automation. As Michael Cook put it in his landmark book, Archives and the Computer, "The computer has provided an instrument which for the first time offers the possibility of improving radically both the rate of output of finding aids and the depth of access to archival information.[38]

37 Cindy Martin, Assistant Director of the Southwest Collection at Texas Tech University, November 16, 1994, Lubbock, Texas (Personal Interview).

38 Michael Cook, Archives and the Computer. London: Butterworths, 1986: 2.