

Automation in archives : a summary history

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The potential importance of electronic computers remained unrecognized by all but a very few in the archival profession until about 1970. By that year, several other professions represented at this Congress had made considerable use of the rapidly developing capabilities of computers to record, merge, match, organize and print data. In part, the lag by archivists in utilizing the new technology lay in the typical conservatism within and quite limited resources available to archival institutions. Also, most of those who inquired about automation assumed that the recording media (chiefly tape) would merely perform calculating and transcribing functions for converting data to a conventional medium.

The topic, automation, was nevertheless placed on the agenda of the 1964 International Congress of Archivists in Brussels⁽¹⁾; yet, with one exception, the participants believed that computers in archives would be utilized only for fiscal and certain statistical operations. The exception, the U.S. National Archives and Records Service (hereafter referred to as NARS), noted in an intervention that automation had been used for warehousing controls and could be similarly used for locating files. Thus, NARS had been studying the use of a computer to locate individual civil and military service personnel files.

The Archival Round Table decided⁽²⁾, nonetheless, to add automation to the agenda for the following year. The report to the Round Table was in the main inconclusive. Several archivists suggested utility for indexing, but they did not plan to install systems. They also rejected tape or punched cards as accessionable records. The United States was again an exception. NARS had acquired a computer system for its close to one-hundred million personnel case files and was studying the problem of retention and disposal of data on tape or punched cards.

By 1971, the attitudes of a steadily increasing number of archivists toward automation had changed radically. In that year the Archival Round Table expected positive replies to questions about their interest in automation. Robert-Henri Bautier, secretary general of the Round Table and Professor of Archives at the Ecole des Chartes, undertook responsibility for conducting a survey of archival automation. His report to the Round Table⁽³⁾ noted the development of information science in numerous countries, in most part as a result of automated techniques in gathering, processing and disseminating information. Prof. Bautier assumed correctly that this development would eventually affect the acquisition policies of archives in those countries. The alternative he envisioned would be the establishment of central data banks that could become rival archives for recent permanently valuable records.

The Swedish national archives took a lead among the archival institutions by asserting its authority to accession permanently valuable machine-readable records. It also was among the first to initiate a study of the preservability of various media. NARS established an organizational entity to survey tape files within the federal government and to initiate an accessioning process for those that were deemed of enduring value. The national archives of Canada and several other countries were considering similar involvement.

During the late 1960's outside influences focused archival attention on automation. Historians and social scientists were using computers to process their data (including information from archival sources) and were inquiring about access to data in governmental agencies that were in machine-readable form. Furthermore, decisions on the retirement of tape and other media were being made without archival intervention.

Major impediments to archival intervention in the retirement process were :

- 1) a lack of knowledge among archivists about automation in general and about the machine-readable files in administrative agencies;
- 2) the unavailability of adequate facilities for the preservation and servicing of tape; and,
- 3) legal obstacles to accessioning such recent records.

The last two impediments were largely responsible for delays in considering machine-readable records for accessioning; therefore, archivists in several states decided to use automation primarily for retrieval systems. Study groups were organized to examine the feasibility of using computers to facilitate access to records with high reference activity.

The federal Republic of Germany, including several Länder, was among the leaders in initiating indexing programs by computer. NARS was computerizing a locator system for its national records center and was seeking a system that could automate the production of finding aids for archival holdings. Australia, Belgium, Canada, Denmark, Finland, France, Israel, Italy, Norway, Poland and Romania were planning or actually installing computerized systems to facilitate operations. The data available to Prof. Bautier for all but a few institutions were too fragmentary for detailed descriptions of most of these systems. He was informed about the role of Liege University in promoting computer use in Belgium and about the indexing of the English parish registers as well as the detailed indexing of the microfilm files in Salt Lake City.

The Italian National Archives was probably the first to adopt text retrieval for archival documents but its response to the questionnaire did not reach Prof. Bautier in time for inclusion in his report. The Italian ADP systems were described later at a meeting in Spoleto (see below). The archives acquired a Honeywell retrieval system for producing keyword indexes and was adapting IBM's Document Processing System for text retrieval. Enrica Ormanni demonstrated the latter by retrieving on a vide screen (CRT) a document from the records of the Abbey of Monte Cassino.

The important matter of cost for automated indexing was dealt with only by the Canadian response in which it was shown that automation saved considerable money and staff time.

In addition to indexing, several archives sought computer assistance for administrative operations other than fiscal controls, e.g., compiling statistics on reference activity and controlling the retirement and acquisition of noncurrent records.

Prof. Bautier concluded that archives should develop facilities for preserving selected data files, investigate the potentials for automatic indexing, and that ICA should include a major session on automation for the 1972 International Congress in Moscow.

In preparation for this 1972 session, the ICA established the Ad Hoc Working Party on the Implications of Automatic Data Processing for Archival Management. The participants at the meeting in Spoleto, Italy, 23-25 May, 1972, comprised archivists from Belgium, Canada, England, Federal Republic of Germany, Israel, Italy, and the United States. The Secretary General and Deputy Secretary General Represented the ICA. O.A. Mikhailov served as observer for DBA, UNESCO(4).

These experts reviewed the status of archival automation on the basis of the Bautier report and their varied experiences. The findings and recommendations may be summarized as follows :

- 1) Finding : Each archival institution represented had developed automated techniques without knowledge about the systems in the other institutions.
Recommendation : (a) A journal should be published to include articles on significant innovations and bibliographic references;
(b) A system of correspondents should be established to share information directly with individual archivists.
- 2) Finding : Archivists were having difficulty in learning about literature on automation that would be especially useful to them for self-instruction.
Recommendation : A bibliography should be compiled to meet this need.
- 3) Finding : Most archivists were uninformed about automation.
Recommendation : (a) A training curriculum should be compiled and tested at a seminar;
(b) A series of publications should be compiled beginning with guidelines on managing machine-readable records.

At the Moscow Congress later that year, the Ad Hoc Working Party was reconstituted eventually as the continuing ICA Committee on Automation. The individual members changed during the subsequent years although the national archival organizations represented at the initial meeting remained constant. (For a period, the Canadian representative preferred to become a corresponding member. He is now a full member). Several other national organizations were added at various times. The class of corresponding members covers all continents.

All the other recommendations have been achieved and other projects have been added. The journal *ADPA* is in its fourth volume. An orientation curriculum was devised and tested in England in 1974. Additional seminars in the Ivory Coast and again in England just prior to the 1976 International Archives Congress perfected training designed for archivists in the developing countries.

A bibliography was compiled by the then chairman of the committee, M.H. Fishbein. A most of the entries were published in English and the bibliography is largely outdated, the present secretary, Jean Pieyns-Rigo, has undertaken the task of compiling a new bibliography that will be truly international.

The publication of the *Guidelines for Administering Machine-readable Archives* was delayed until the beginning of this year because adequate experience had been lacking until the last two years. This publication by M.H. Fishbein and an additional volume entitled, *An Introduction to Archival Automation* by A. Arad and M.E. Olsen were printed by the Bundesarchiv of the Federal Republic of Germany.

During the years since the Spoleto meeting a number of automated systems that had been planned were in fact adopted and new systems installed. Machine-readable records as potential archives has been recognized in the profession. Unfortunately, in many states, legal impediments prevent archivists from officially intervening in the retirement of non-current machine-readable records and transferring them to archival storage to assure preservation.

The development of archival automation since the Bautier report may be illustrated by reference to the following systems in countries that have been leaders in the field :

Belgium :

The General Archives of the Kingdom compiled a data bank of vital data about the population of the XVIIth-XVIIIth centuries and automated an index to all finding aids.

Canada :

The Public Archives has been accessioning machine-readable archives and preparing finding aids for its conventional holdings by adopting a MARC format.

Federal Republic of Germany :

A committee on automation with representatives of federal and state archives was established to exchange information and assign projects to individual members. Numerous name and other indexes have been compiled at the federal and local levels.

France :

The Archives Nationales is utilizing detailed indexes for its varied official and private archives and for the national collection of art objects.

German Democratic Republic :

Thesauri were compiled for computer-assisted indexing of national and local archives in a classified form.

Israel :

The state archives utilizes a minicomputer to produce detailed finding aids in English and Hebrew and has completed its first accession of machine-readable records.

Italy :

The experiment for full text retrieval of early records was completed successfully and is in operation. Other projects for more recent records are well advanced.

Ivory Coast :

A legislative mandate to the national archives to automate the index to the nation's Official Register provided the archives with computer capacity for archival control.

Spain :

The national archives has computerized the listing of dissertations by author, residence and keywords that require use of archives.

Sweden :

An in-depth study of the management of machine-readable records was completed.

Union of Soviet Socialist Republics :

A classification system adaptable to automation was computerized.

United Kingdom :

The program PROMPT is controlling and reporting on reference services for use in time for the move to the new building at Kew. PROSPEC has been fully developed to produce finding aids to record classes. Several county archives are computerizing their finding aids programs.

United States :

The publication of a comprehensive guide to the holdings of the National Archives was facilitated by the use of electro-photo composition. A system developed for intelligence retrieval has been adapted to produce finding aids and to serve as a data bank for a variety of information on holdings and statistics. A number of archival establishments have adapted systems that had originated in libraries, like MARC, OCLC and SPINDEX. Regional networks are being organized.

In the field of international cooperation various projects are in progress or planned for the immediate future. A glossary of ADP terms that relate directly to archives is nearing completion. Within a year a study of charges for transcriptions of machine-readable files will be composed.

A survey of automated systems and a study of the legal problems of machine-readable records are being planned. An evaluation of the preservability of various media is under discussion. Additional guideline and training curricula are on the agenda for future meetings. Based on past experience with similar projects we may be reasonably assured of positive development in these and other useful cooperative efforts.

FOOTNOTES

- (1) See report by E. Califano, "L'Introduction et l'Adaptation des Moyens Mécanographiques aux Archives", *Archivum*, Vol. 14 (1964), 147-56.
- (2) *Actes des Huitième et Neuvième Conférences Internationales de la Table Ronde des Archives*, (Paris, 1965), 164-89.
- (3) "Les Archives et l'Informatique", *XIIIe Conférence Internationale de la Table Ronde des Archives*, (Bonn, 1971).
- (4) See minutes of the meeting in *ADPA : Archives and Automation, Informatique*, Vol. 1 (Aug. 1972).