Two Experiments in Automated Indexing: The Presidential Papers and the Papers of the Continental Congress

MARION M. TORCHIA

ARCHIVAL AND MANUSCRIPT MATERIALS HARDLY SEEM AMENABLE to automated control, and yet the computer was welcomed early into this field. The twentieth-century explosion in volume of manuscript material and the corresponding demand from scholars for better access to the sources go far to explain the enthusiasm of the curators; no doubt there was also the excitement of experimenting with a new technology. Plans were laid in the 1960s for information storage and retrieval systems for archives and manuscripts comparable to those being developed for printed documents.[1] The computer, it was hoped, would help control materials on all levels from collections down to individual pieces of information. Eventually a nationwide information network might be created. Today those dreams are still unrealized, but a number of substantial projects in archival automation have been completed.

Two of the most ambitious of these projects are ready for evaluation. The first, the indexing by the Library of Congress of the Presidential Papers, a mammoth task involving nearly two-million manuscript pieces, was begun in 1958, and the last of its thirty-two volumes is now at the press.[2] In 1971 the National Archives began the indexing of the Papers of the Continental Congress, and this undertaking, also now in its latter stages, will result in a 5,000-page printed index.[3] Beyond their sheer

The author, who holds a doctorate in classics and ancient history, from Yale University, is pursuing a master's degree in library science at the University of Maryland, College Park, and is an instructor in the Department of History there.

[1] Optimistic projections of this kind were aired at a conference of the Society of American Archivists in Atlanta, Georgia, in October 1966. A series of papers read at the conference appears in the April 1967 issue of the *American Archivist* (vol. 30, No. 2). See also Frank G. Burke, "Automation in Bibliographical Control of Archives and Manuscript Collections," in Dagmar H. Perman, ed., *Bibliography and the Historian* (Santa Barbara: Clio Press, 1968); Burke, "Report on a Survey of Automation Activities in Archives and Manuscript Repositories in the U.S. and Canada," *American Archivist* 31 (April 1968): 208-10; Burke, "Automation and Historical Research," *Libri* 19 (1969): 81-91.

[2] Each of the two directors of the Presidential Papers Program published an account of its progress: Fred Shelley, "The Presidential Papers Program of the Library of Congress," *American Archivist* 25 (October 1962): 429-33; Russell M. Smith, "Item Indexing by Automated Process," *American Archivist* 30 (April 1967): 295-302. They evaluated it in retrospect in personal interviews on February 5 and February 12, 1976. Since there is no basic disagreement between the two men, their accounts have been combined. The *Annual Report of the Librarian of Congress*, 1958 through 1974, contains data on the funding and progress of the project, as well as references to relevant legislation.

[3] The account given here of the indexing of the Papers of the Continental Congress is based primarily on personal interviews. The editor, John P. Butler, described the project on February 9 and March 9, 1976. Frank G. Burke, the developer of SPINDEX II which was designed as a comprehensive automated system for the National Archives, explained the relationship of the Continental Congress project to the projected larger system. No description of the indexing project has been published; the original grant proposal to the Ford Foundation and an unpublished description of the project by the editor have been utilized: "A Proposal to Index the Papers of the Continental Congress by Computers" (May 12, 1970); John P. Butler, "Indexing the Papers of the Continental Congress" (1973).

magnitude, the two projects have in common the fact that their material is recognized as being of the highest value to the study of American history. But between the two indexes there are important differences resulting from dissimilarities in economic circumstances, the state of the materials, the philosophies of the project directors, and the stage of development of computer technology at the time of each project's inception. A comparison of the two undertakings reveals something about the fate of the visions of a decade ago, and may be of practical assistance to curators contemplating similar projects.

The Library of Congress holds the papers of twenty-three U.S. Presidents, to Coolidge, and has considered them the nucleus of its manuscript collection. In 1957 President Truman, planning for the disposal of his own papers, became interested in the collection, and secured passage of legislation "to arrange, index and microfilm" the papers. The library quickly drew up plans for the project, and proposed at a June 1957 congressional hearing that automatic data processing equipment, available in its Business Office, be used to assist the indexing process, as otherwise there was no possibility of completion within the projected five or six years. The total budget was set at $720,000 and, upon receipt of the first annual appropriation in August 1958, the project was under way under the direction of historian-archivist Fred Shelley.[4]

Thus, at the outset, the project was subject to a number of restrictions. Time and funds were limited and, as it turned out, greatly underestimated. The indexing was only part of a multifaceted operation, subordinate to the definitive arrangement of the papers for microfilming. The automation of the indexing process was incidental, adopted not to make possible a better or fuller index, but simply to save time. The ADP equipment was primitive, consisting of a mechanical card-sorter and an electronic tabulator (IBM 407), and there was no specialist in automation on the Manuscript Division staff. Thus severe limits were placed on the imaginative use of automation.

The crucial decision made at the outset was the choice of index format and level of indexing. Item indexing, the manuscript curator's traditional method of listing documents individually by sender and recipient, was adopted. Usually reserved for material of prime importance, it was considered justified in this case. Subject indexing, however, was rejected as too expensive; in fact, the limited subject analysis often included in traditional item indexes was dispensed with, save for a vestigial mention of the subjects of speeches and memorandums of the Presidents. The decision to avoid subject indexing was not based entirely on economics; the project directors had serious reservations about the usefulness of extensive subject indexing, and doubted the possibility of constructing an adequate thesaurus for a collection covering such a broad time-span and range of subject matter. It was their experience in the Library of Congress that the queries of most users related to sender or recipient. Whether or not these arguments were valid, subject indexing was carefully considered, and rejected on rational grounds.

[4] A full discussion of the project's purposes and projected costs is contained in the record of the June 21, 1957, hearing on HR 7813. There was no real discussion of the implications of automation, just mention of the intent to use an IBM punched card machine. The legislation's history may be followed: initial bills: HR 7813, S 2435, S 2477; authorizing legislation: PL 85-147; first appropriation: PL 85-570 (legislative branch appropriation, FY 1959), and subsequent appropriations listed in the *Annual Report of the Librarian of Congress*. The annual appropriations were slightly over $100,000. PL 88-299 (FY 1965) removed the initial spending limit of $720,000. Beginning in FY 1972 the library, in its general budget, assumed the cost of completing the project.

A staff of indexers was assembled, for the most part young people with substantial background in American history but not Ph.D.-level subject specialists. Work commenced on the smaller collections to minimize the cost of perfecting the indexing process. The first step was to arrange the documents, or to verify the existing arrangement which is in most cases chronological. Despite the existence of various finding guides, each document was examined directly. As the papers were arranged, pertinent information was extracted from each one, recorded on paper slips, and transferred to 80-column punched cards in seven fields: the number of the collection; the statement of writer and recipient; the date; a series number; page count; additional information; and card count. There was one card per entry except when the President was neither sender nor recipient, in which case a card was made for each of the correspondents. The Business Office tabulated the cards in the original order, and the resulting printed shelf list was edited against the cards and, when necessary, against the documents. Then the cards were fed into a noisy, card-chewing sorter in the Manuscript Division, for arrangement in alphabetical order by sender or recipient. The machine's vagaries necessitated manual resorting of 10 to 15 percent of the cards which were then sent back to the Business Office for tabulation in alphabetical order. The shuffling back and forth of cards was hazardous, especially in view of the project's lack of control over Business Office procedures. Following tabulation there was a second edit that included the standardization of names, spelling, and corporate entry forms. Finally, a printer's copy was produced for photo-offset reproduction.

Microfilming progressed along with the indexing, although an attempt was made to keep the filming sufficiently behind the indexing so that corrections would not necessitate refilming. The filming was done in shelf-list order, so no special microfilm number was required for individual documents. Since at that time microfilm reels did not contain mechanical counters to aid in the location of documents, an interlocking of the indexing and microfilming processes was not necessary.

Despite the many inconveniences and the inevitable tedium of the process, progress was satisfactory and by the end of 1963 nine of the smaller indexes were complete. At that point the library procured a computer to expedite its payroll process, and the Presidential Papers project was slated for computerization in order to employ the equipment on a professional activity essential to the institution's mission. Russell M. Smith, a historian-archivist like Fred Shelley, became project director and supervised the changeover.[5] Smith, simply in order to provide the programmers with details of the operation as it was then being conducted, had close contact with the library's computer department. There was no moratorium in the project, or discussion of ways in which computerization might enhance the index. An existing payroll program could be adapted, so the programmers' task was relatively simple.

Four programs were written, corresponding to the stages of the operation prior to computer use. First a shelf-list program directed the tabulation in printed form of the information from the punched cards. One improvement over the original routine was a second running of this program for a corrected printout which was kept in the Manuscript Division and proved a useful research tool. The second or "sort" program, which replaced the mechanical sorter, was the most complex. A special

[5] The first components of an IBM 1401 were installed on January 15, 1964; on August 2, 1965, Russell M. Smith became director. *Annual Report of the Librarian of Congress*, 1964, p. xxxi; 1965, p. viii.

"sort key" was devised to allow data that was not to be sorted to be included in the writer-recipient field; capabilities were written into the program to take into account American Library Association filing rules. A third "edit" or "update" program followed; this was very difficult to use, because several codes were required to correct one entry, and mistakes could be multiplied easily. On occasion, cross references were used to avoid difficult corrections, usually when variant forms of names were discovered late in the editing process. The final program produced printer's copy for photo-offset reproduction, much as the tabulator had done. In 1967 the Linotron, a computerized typesetter, was installed at the Government Printing Office; and a fifth program had to be written to convert the computer output to type characters.

The ironing out of bugs in the system caused no significant delays in the project. Once the programs were in operation no major changes were made. By the same token, advances in computer technology were adopted only with great caution. At one point a Mohawk Data Recorder, which captured keyboarded data directly onto machine-readable magnetic tape, was purchased in an attempt to bypass the punched cards. The staff found it inconvenient to use and it was abandoned in 1967 when the library converted to an IBM 360 computer. When the larger computer was installed, transfer to a variable-field format became a possibility, but this option was rejected because all the programs would have had to be rewritten and the uniformity of the indexes would have been sacrificed.

The terms of the original authorizing legislation, which called for the production of definitive indexes, severely limited the creative use of automation, and the project directors adhered strictly to their mandate. No attempt was made to make the computer "massage the data" to reveal unsuspected relationships between parts of the papers. The benefits of automation were thus limited to the elimination of mechanical sorting and the expediting of proofreading. Once the punched cards had been read onto computer tape and a reasonable time had elapsed, the cards were destroyed. The cards for the first indexes were thrown away also, although there was no taped record of their contents. Today Russell Smith sees a calendar as desirable; but the data for these early indexes would have to be recompiled in order to produce one, so such a project is clearly unlikely.[6]

The programs used in the project are now antiquated, superseded by the Library of Congress MARC (Machine-Readable Cataloging) system and the National Archives SPINDEX II (Selective Permutation Indexing) program. These latter systems were developed independently, without reference to the Presidential Papers programs.

Costs were a chronic problem. Computer costs, borne entirely by the library, were not even a factor; the hardship stemmed from the fact that labor and material costs were rising in a period of inflation, while the congressional appropriation remained essentially fixed. Funds were allocated for indexing, microfilming, and publication.[7] Indexing, including arranging and editing, consumed by far the largest share, mostly in staff salaries. Microfilming was handled by the Photoduplication Department; but although the films were sold at cost, no money from film sales

[6] Smith does not have in mind a published calendar, which would be prohibitively expensive, but a printout for use in the Manuscript Division.

[7] There is no published report detailing expenditures. The amounts allocated to particular operations depended upon the state of organization of each collection, but averaged 20 percent each for arranging, indexing, editing, filming, and publication.

was returned to the Presidential Papers program. The library made no attempt to recoup its costs through sale of the indexes—they were distributed free with the films or sold separately by the Government Printing Office at a nominal price.[8] The project was viewed, at least to some extent, as a public service.

Because of budgetary stringency, several reductions in the scale of the project were made along the way; full first names were replaced by first and middle initials, and plans for a calendar were discarded. Some reduction in real cost per item was achieved over the years, thanks to the combined effect of increased staff efficiency, full computerization, and the larger size of the later collections. But the proportion of savings from each factor has not been precisely measured. The Linotron high-speed printer, according to project director Smith, did not save much time or money. The cost of the entire project, not counting computer costs, is estimated at $1 per item, a prohibitive price for most institutions.

The Presidential Papers project was a pioneering enterprise, and ought not be judged on the basis of hindsight. It was undertaken before anyone fully appreciated the potential of automation; there was no way of foreseeing the quantity of human editorial and clerical work that would be necessary. The project might conceivably have been undertaken even without ADP equipment; today, however, even with the computer, it is unlikely that an item index of comparable size would be attempted. In the mid-1960s the Public Archives of Canada commenced an item index to the papers of the prime ministers, and proposed to include a degree of subject analysis.[9] But, more commonly, directors of large-scale indexing projects have tended to limit themselves to folder-level indexing.[10]

The importance of the Presidential Papers project does not rest primarily in its contribution to the techniques of automation, but in the fact that, with the help of the computer, a collection of great value to scholars was made widely available. There is little doubt about the quality of the indexes. A scrutiny of the index to the Andrew Johnson papers, by researchers at the University of Tennessee, uncovered only a handful of errors.[11] There is less information about user opinion of its utility, as no systematic query has been made. More will be learned as the indexes continue to be used. Complete sets of the microfilmed papers, costing about $30,000 per set, have been purchased by a number of universities, and sales of the films now total close to $2 million.[12] Numerous scholars at a distance from the Library of Congress have gained access to this major historical collection.

With the advantage of a decade's refinement in computer technology and with the Presidential Papers project as a prototype, the National Archives undertook an item index to the Papers of the Continental Congress. Record Group 360, containing the official records of the American government through the Revolution and up to the

[8] *Annual Report of the Librarian of Congress,* 1961, p. 37. The price of the indexes varies widely with the size of the collections.

[9] Jay Atherton, "Mechanization of the Manuscript Catalogue at the Public Archives of Canada, " *American Archivist* 30 (April 1967): 303-09.

[10] This decision was made by the Herbert Hoover Archives at Stanford University, in the indexing of the records of the American Relief Administration: Rita R. Campbell, "Machine Retrieval in the Herbert Hoover Archives," *American Archivist* 29 (April 1966): 298-302.

[11] LeRoy P. Graf, Ralph W. Haskins, eds., *The Papers of Andrew Johnson* (Knoxville: University of Tennessee Press, 1967-). The researchers visited the Manuscript Division and received assistance from the Presidential Papers staff.

[12] In 1965 it was reported that thirty-two libraries had indicated their intention of purchasing complete sets. Statistics in the Manuscript Division indicate that as of May 1976, 2,422 film sets of complete single collections had been sold for a total of $1,952,591. Statistics are not kept on sales of parts of collections.

ratification of the Constitution, and including such national treasures as the Declaration of Independence, is one of the most significant collections in the archives.[13] It is massive, estimated at 50,000 manuscript pieces, though certainly not comparable to the two million pieces of the Presidential Papers. Documents in great variety are represented: letters, reports, motions, sketches, maps, newspapers, pamphlets, and journals.[14] The subject matter is diffuse, although the limited time-span more narrowly confines the subjects than do the Presidential Papers. The collection has long been known and cited, but in the 1830s it suffered an unfortunate rearrangement at the hands of a State Department clerk, a situation only slightly ameliorated by partial indexes prepared through the years. Rearrangement back to a presumed original order was acknowledged to be hopeless. Thus, despite the fact that the papers had been microfilmed beginning in the late 1950s and that the films were widely distributed, they were under-utilized. Item indexing was necessary if reasonably convenient access to the papers was ever to be provided.

The National Archives saw the indexing project as part of a larger pilot program to test the feasibility of automated control over archival materials at all levels of organization. The SPINDEX system had originally been developed at the Library of Congress for the computerized production of manuscript finding aids. In 1967 the archives began developing SPINDEX II, not only to organize its own holdings, but as the possible basis for a nationwide network of control over the content of archival and manuscript collections.[15] Included in the system was an indexing program suitable for the Continental Congress project, a variation on the KWOC (Keyword out of Context) index wherein terms are permuted to serve as multiple access points to documents. In 1970 the Ford Foundation, as part of its program of support for Bicentennial projects, agreed to fund the indexing of the papers with a two-year grant, and the archives committed itself to seeing the project through to completion. By 1973 the nationwide implementation of SPINDEX II had foundered, but the Continental Congress project has survived as an internal National Archives application, with completion expected by the end of the Bicentennial year.[16]

In one sense the Continental Congress project was simpler than that of the Presidential Papers. There was no rearranging or microfilming to be done, and attention could focus entirely on the indexing. Still, it was an ambitious undertaking and, like the earlier project, its magnitude was underestimated. The 1970 grant proposal projected completion within two years of a more elaborate index than that

[13] The 1970 grant proposal, and project editor John P. Butler's 1973 paper, contain general descriptions of the Papers. Three National Archives pamphlets have been written to accompany the microfilms:
Papers of the Continental Congress 1774-1789. National Archives Microfilm Publications, pamphlet describing M247. (1971)
Records of the Constitutional Convention of 1787. Pamphlet describing M866. (1972).
Miscellaneous Papers of the Continental Congress 1774-89. Pamphlet describing M332. (1962).
The formal title of Record Group 360 is Records of the Continental and Confederation Congresses and the Constitutional Convention.

[14] Butler, "Indexing the Papers of the Continental Congress," p. 5.

[15] The National Archives in-house material on SPINDEX II includes *The National Archives Feasibility Design and Study* (August 1971), especially chapter 5; and *SPINDEX II: Report and Systems Documentation* (1975). Frank G. Burke has written several articles describing SPINDEX II: "Computer Techniques for the National Archives." *Computers and the Humanities* 4 (September 1969): 11-18; "SPINDEX II: An Aspect of Archival Information Retrieval," *Records Management Journal* 8 (Summer 1970).

[16] According to Kenneth Duckett, *Modern Manuscripts* (Nashville, Tennessee: American Association for State and Local History, 1975), pp. 155-58, the National Archives decided by this date that total automated control of its own holdings was not feasible; in the meantime, coordination among the cooperating institutions had broken down as a result of numerous technical difficulties. According to Burke, a major problem was the inability of the archives to control its own computer operations, which are managed by the General Services Administration.

which is now being produced.[17] The number of editorial steps was miscalculated, and it was thought that the existing indexes would be major timesavers; in fact they were found to be inadequate and no substitute for direct analysis of each document. A divided index was envisioned, with a separate sender list, recipient list, calendar, shelf list, and subject list. The plan was revised after the grant was received, and the index limited to a single alphabetical list and a chronological list.

A commitment was made to full item-indexing, including subject analysis of each document. This meant that the staff, in contrast to that for the Presidential Papers, was selected for their specialized knowledge of the history of the American Revolution. But the indexing process was in fact not very different from that in the earlier project. Subject analysis followed the traditions of item indexing and concentrated on the names of persons, places, and corporate bodies; citation of common terms was restricted to a few major recurring themes such as the payment and supply of the Continental Army. All personal and corporate names mentioned in the documents were included, as well as the names of important places; an attempt was made to standardize forms, but research to identify persons had to be severely limited.[18]

Because of the restricted nature of the subject analysis it was decided that an elaborate thesaurus was not necessary, and a list of about a thousand terms, mostly names of government agencies and committees, was compiled. The list was kept open for additions by the staff, but quickly stabilized and thereafter was referred to only occasionally.

With a few exceptions every document was indexed. Indexes forming part of the collection itself were simply listed, as analysis would amount to duplication of the index. The *Journals of the Continental Congress,* published in thirty-four volumes by the Library of Congress, contain a series of fifteen annual indexes and were not re-indexed; but a cumulative master index has been issued as a companion volume to the index of the Papers.[19] No limitations were set on the depth of indexing: as many as 6,000 terms were extracted from a single document, with an average of ten terms per document.

Indexing commenced in August 1971.[20] The indexers recorded the data on specially prepared forms, in the SPINDEX II format consisting of a variable, virtually unlimited number of fields and a variable field-length. Data included a unique document number for computer identification; a description, including the names of writer and recipient, number of pages, and type of document; the date; the microfilm location; the location by item, volume, and page; and the subject terms.[21] This flexible format was a major advantage over that used with the Presidential Papers, and was especially useful in view of the great variety of forms among the Papers of the Continental Congress. The variable field-length has been most advantageous, though the 2,000-character limitation has frequently proved too confining, and long documents have had to be entered as several records.

The entire keyboarding and editing process has been handled by the staff. Document profiles were typed directly onto magnetic tape cartridges, eliminating

[17] Grant proposal, pp. 8–12.

[18] Butler, "Indexing the Papers of the Continental Congress," pp. 6–7.

[19] Worthington C. Ford, et al., eds, *The Journals of the Continental Congress, 1774–1789* (Washington: Library of Congress, 1904–37); Grant Proposal, pp. 4–6; Butler, pp. 14–15; Kenneth E. Ford and Stephen D. Tilley, comps., *Index* [to the] *Journals of the Continental Congress, 1774–1789* (Washington: National Archives and Records Service, 1976).

[20] Butler, p. 4.

[21] Ibid., p. 11.

the inconveniences of punched cards. Following a preliminary editing, they were transferred to computer tape. An edit listing, or printout in the original order, was produced, and corrections made. Alphabetical and chronological sorting ensued, followed by another editing, still in progress. The final editorial step includes elimination of redundant index terms and establishment of cross references. A computer-produced "keyword-stopword list" facilitates this task; index terms are listed with their frequency of occurrence. More frequent terms can be chosen and references made from the rarer variations. Through this device a major part of the task of thesaurus building is being accomplished after-the-fact.

One major improvement over the Presidential Papers programs has been the ease with which corrections can be made. Mistakes discovered at the stage of input into the magnetic-tape typewriter can be rectified by the retyping of a single character. Errors can be corrected in the computer's storage by retyping single fields rather than entire records.

Although the Continental Congress Project has had the benefit of sophisticated computer programs, its most serious difficulties have been computer "bugs." Dealing with computer problems is rendered difficult by the fact that the General Services Administration, the parent agency of the National Archives, maintains control of all the archives computer facilities and prohibits the employment of systems analysts or programmers on the archives staff. The original designer of the SPINDEX II indexing program had included, besides the 2,000-character limitation, a limit of twenty index-tags per field, but had failed to record this fact. Many of the documents in the Papers were indexed by more than twenty terms; by the time the difficulty was evidenced by the failure of the computer to produce an edit listing, the programmer had left the archives, and extensive detective work was necessary to pinpoint the problem. This lack of coordination between the National Archives and the General Services Administration is a serious impediment to future development in the automation of archival material at the national level.

As a precaution against compounding such computer problems, test batches of the index were run early in the project. In early 1972 a sample of thirty-odd records was produced, but this was too small to uncover all problems. Halfway through the project a complete index was produced of all documents indexed to that point, so that a more careful examination could be made. The two half-indexes will be merged at the end of the project.

As the index-printouts have been produced, the staff has supplied them to researchers, and comments have been generally favorable. Privileged users, to be sure, are not likely to look a gift horse in the mouth or to criticize severely an unfinished index. Thus, the Presidential Papers and the Continental Congress projects share a common weakness in the lack of an adequate procedure for receiving feedback from users.

When all editing is complete, the corrected tapes will be submitted to the Government Printing Office, for printing by the Linotron typesetter. A three-column format will probably be used: 450,000 entries will take up about 5,000 pages, in four or five volumes. It will be a bulky index, but certainly not unmanageable.

The staff of the Continental Congress project has been fortunate in its freedom from hurry and financial worry. Costs are estimated at $6 per item, of which 95 percent is due to labor, or many times the cost of the Presidential Papers project, even considering inflation. Subject indexing is extremely expensive.

Editor John P. Butler has emphasized the passive role of the computer in this project, likening it to the role of a typewriter in composing a letter.[22] The project is definitely not an experiment in automatic indexing, in which the computer chooses the terms to be indexed. The intent was not to replace the human indexer but simply to expedite his work. Like the Presidential Papers program, this project had as its goal the production of a definitive printed list. More advanced computer applications, such as on-line access, were beyond its scope, and Butler feels that they are beyond the resources of the archival profession generally, at least under current economic conditions.

Despite distance in time, and other disparities of circumstances, the two indexing projects have shared a very similar experience. In both cases initial naiveté was followed by the realization that computers are mindless clerks and that the work of supervising and correcting them is arduous. Both projects had important advantages: the documents were obviously worth indexing, the support of a major institution had been obtained, and the directors combined an understanding of the editing of historical documents as traditionally practiced with sufficient mental flexibility to learn from scratch about computers. The Presidential Papers project is notable mostly for its magnitude, though also for its accuracy; the Continental Congress project did much more with a smaller mass of material. Subject analysis on the item level has effectively counterbalanced the disarray of the papers, and the computer has been skillfully used to overcome the problem of vocabulary control, always the most serious obstacle to subject indexing. The scope and detail of these projects may be beyond the capabilities of most archival institutions, but their completion is encouraging, pointing the way to further, though more modest, experiments in the computerization of archival and manuscript controls.

[22] Ibid., pp. 12–13.

POSTAL NOTICE

The following statement of ownership, management, and circulation was filed in accordance with the provisions of Section 4369, Title 39, U.S. Code, on September 17, 1976, by C. F. W. Coker, Editor.

The *American Archivist* is published quarterly by the Society of American Archivists, National Archives Building, Washington, D.C. 20408. The Editor is C. F. W. Coker, same address, who is also the managing editor, and the Owner is the Society of American Archivists, a nonprofit corporation, which consists of members and associates of the archival profession.

The legally constituted business office of the Society is with the Executive Director, who holds office by appointment of the Council. On the date of this filing, the Executive Director's address was Society of American Archivists, Box 8198, University of Illinois at Chicago Circle, Chicago, Illinois 60680. There are no stockholders, bondholders, mortgagees, or other security holders in the organization.

The average number of copies of each issue printed during the preceding twelve months is 3,078; sales through dealers and carriers, street vendors, and counter sales, none; mail subscriptions, to members and subscribers, 2,743; total paid circulation, 2,685; free distribution, 108; total distribution, 2,793; office use, leftover, spoiled after printing, 285. For the most recent issue (April 1976), total number of copies printed, 3,402; sales through dealers and carriers, street vendors, and counter sales, none; mail subscriptions, to members and subscribers, 2,772; total paid circulation, 2,714; free distribution, 90; total distribution, 2,804; office use, leftover, and spoiled after printing, 598.