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TECHNOLOGY'S EFFECT ON THE ROLE OF THE ARCHIVIST

John A. Vernon

Not long ago the author's total credentials for presuming to comment on high-tech matters would have amounted to the demonstrated ability to load and use a stapler, successfully turn on and off an electric toothbrush, and replace batteries in most flashlights. There must be a goodly number of other archivists who possess a similarly deprived background. Of course, they are not announcing it to everyone as is being done here.

Given his condition, the author prefers to consider any previous lack of exposure as an asset. Perhaps he can better identify broad issues if his mind is not overloaded with information about narrow ones. Certainly he cannot distract or dazzle with technical terms or concepts that could obscure the actual intended message. Nor can anyone be intimidated. All who worry about the implications of the information revolution for archivists, but are vague about what they might be, can be represented. Possibly, those better steeped in computer lore and language might lose any reader largely unfamiliar with such things. In any case, what is offered instead is a brief discussion of the effects modern technology is having on the character and substance of archival records, an assessment of the documentation problems thus posed, and mention of one of the ways in which the National Archives and Records Service (NARS) is trying to insure that the best possible record of governmental activity survives despite those problems. Perhaps NARS' experience will prove helpful for archivists located elsewhere.

Before beginning, a not irrelevant observation

should be made: if many archivists are not conversant with the latest technological developments, it is hardly surprising. Given their usual frame of reference, they may have to be constantly reminded that this automated age everyone hears about really does exist; and that ultimately the way they go about their work will be affected. To be sure, archivists have heard how the modern workplace is to be transformed: computer terminals all around, no more paper, no more paper clips, no more paper cuts. Yet, much of this seems to be passing them by. Professionally, they may have seen little evidence of it thus far. Even though they may have received a few computer records into their custody, such things are likely to appear isolated curiosity pieces floating on a paper sea.

Because of its huge volume, textual materials will continue to preoccupy most archival institutions for a long time. As a result, it is easy for their employees to believe that, if a computer-attributable information explosion is really going on somewhere, it is a long way off and will scarcely touch them. They can fall into the trap of thinking of automated information systems as a passing fad. And even if they do not, archivists are likely to assume that traditional ways of thinking about records will see them through this aberrant condition until normalcy returns.

If that is the way many archivists are thinking, they may be suffering from a condition described by psychologists as "cognitive dissonance": their established systems of belief will not permit them to accept the reality that information is unquestionably being created and managed in ways radically different than before, and that further changes are on the horizon. A bomb shelter existence may insulate them from the immediate fallout, but leave them exposed to its aftereffects: what might literally be called a case of terminal "future shock." To keep up in an increasingly computerized age, the profession will have to act in innovative and uncharacteristically bold fashion.

Complications will attend efforts to enter the technological mainstream, but that is not to suggest that those efforts will not succeed. Automatic data processing is a new enough phenomenon that it is still in an evolutionary stage and archivists can evolve with it. As electronic methods of creating, storing, and using information are being put into place, archivists can educate themselves better to the probable implications of these methods. Archivists still have time to get in on the ground floor of a new technology and help mold the way it will be managed. They can anticipate potential problems, react to them, and address them before they become critical. And archivists can work with agencies or other comparable organizational entities to develop electronic informational systems responsibly.

Despite the complications, what lies ahead is actually an unparalleled opportunity to expand roles--to perform as records midwives as well as morticians. Of course, ever-increasing reliance on electronic recordkeeping suggests that if archivists intend to act aggressively, they had better start now.

If archivists do not act, within a relatively few years "archives" will necessarily take on a more restricted meaning, referring only to records predating the electronic age. And an "archivist" will be thought of as a specialized antiquarian largely unacquainted with the realities of how modern organizations go about creating, maintaining, and disposing of records, many of which may never appear on paper. Electronic mail systems, telecommunication networks, the widespread usage of personal computers as electronic scratch pads and other such exotica will sorely test their ability to adapt traditional approaches to new conditions. As has been suggested, the increasing popularity of database management and word processing applications may force the "New Archivist" to rethink and rework such revered archival principles as provenance, original order, and the series approach to description.

The desire to play an early and sustained role in effecting a better records product did not coincide with the advent of the computer. In his 1941 annual report, Archivist of the United States Solon Buck indicated that NARS "must inevitably be concerned with the creation, arrangement, and administration as well as with the appraisal, disposal, and preservation of Government records."² Considerably later, as the "Brave New World of Automation" was clearly dawning, Wilfred Smith, now the Dominion Archivist for Canada, echoed that sentiment, if not the language, in suggesting that computers provided the occasion for archivists to become actively "involved at the programming stage in the development of EDP (Electronic Data Processing) systems."³

To gain this opportunity, archivists will have to convince agencies that they have something to offer besides a reflexive concern for what the latter are likely to regard as outdated information. Archivists will have to spell out what they want in the way of character and quality of documentation, keeping in mind that agencies cannot be expected to create records which do not truly reflect the work environment in which they were produced.

Archivists are well aware that organizations employ innovation in information technology to facilitate their doing business. Their focus is on active utilization of data to improve productivity of effort, not on preserving it for some undefined future use. In the past, archivists have successfully taken this attitude into account in order to safeguard essential interests. Usually, they have emphasized that operating efficiency calls for effective flow of information whatever the physical means of conveying it. Although this efficiency pitch is an old one, it applies to the computer setting as well.

Systems designers and information managers may thus need reminding that the context in which a decision is made is often as important as its substance, and that records are the only systematic

tool available to reconstruct that context. If, through faulty documentation, the capability for doing that is lost, that inability constitutes every bit as much an efficiency issue as speed of processing does. Digitized information management systems must be able not only to retrieve data but to index, store, protect, and retain it if the organization is to function effectively. If, as everyone agrees, Information is power, a flawed system for developing it saps its potential.

They need to persuade agencies that high quality information generated for one purpose and thoughtfully retained for others helps both originating agencies and archives. If they are successful, archivists can serve all parties' interests, not merely their own. Even if they have to learn to employ new buzz words as technological conditions change in order to continue to make their points, those points nevertheless remain valid. Now, more than ever, it is important that their message be accepted.

Why now more than ever? Because modern ways of producing, maintaining, and retaining information pose some unique problems and make several old ones such as records volume worse. The federal accumulation now amounts to between thirty-five and forty million cubic feet.⁴ Ironically, the power of computers to generate and store data electronically has contributed to the present glut of paper records, since ultimately humans need to be able to read the data to interpret its significance. Such massive volume complicates the archivist's ability to determine which documents are essential and which are not. In addition, appraisers require technical knowledge in order to assess which machine-readable materials warrant retention and in what forms they should be preserved.

Another compelling reason for archivists to actively enter the electronic arena is that it remains largely uncharted, and they stand to lose a lot if they do not get involved. Here are several pressing concerns which have emerged up to this

point:

1. The relative ease in updating drafts and other documents can result in the loss of significant information unless well-conceived and strictly enforced safeguards are put into place.
2. Information storage and retrieval methods are becoming more decentralized and more difficult to predict. (According to one estimate, by 1990 the Federal government may have provided as many as a million personal computers for agency managers and others, in addition to the thousands of existing computer systems.)
3. With database management systems that allow random record storage and functionally unrelated originators and users to access the same information, the danger exists that, without controls, the context in which the data was created can be obscured and that the data itself could be altered or erased.
4. Without proper attention to indexing and labeling, future users may find themselves unable to find electronically stored information.
5. Information created on one electronic system may be lost when an agency updates its systems, unless steps are taken to ensure that the old and new systems are compatible.
6. The shelf life of disks and diskettes is quite short and unless information is transferred, the information they contain may be endangered.
7. Permanently valuable electronic media must be made available in a format that permits future use of the information in an archival repository.
8. Policy documents and others of long-term value created on word processors can be destroyed without retention of any permanent records.

These main problem areas spawn a series of related questions:

1. How should archivists deal with electronically filed Freedom of Information Act (FOIA) requests for records? According to the act requestors

can ask to see the originals. If they are stored electronically, does that fact make them records accessible under FOIA?

2. Can archivists identify information categories which should be stored on particular media? For example, should some information, regardless of how it was created, be maintained in "human-readable" form?
3. Will courts allow electronic records to be entered as evidence? How can users validate signatures if the document is created electronically?
4. Will archivists have to develop sampling techniques to cope with the potential generation of a large volume of computer records?
5. Will creators maintain a record of important informational exchanges transmitted via electronic mail systems?
6. Who owns the data in a contractor-generated and operated electronic file?
7. With the complications and complexities attached to electronic records, will archivists have to tighten up the definition of "record" to assure no misunderstandings?

One approach that the National Archives and Records Service has taken in order to get a better handle on these and other documentation issues was the creation this past year of a special unit--the Documentation Standards Staff. Patricia Aronsson serves as director. According to the statute which justifies this staff's existence,

The head of each Federal agency shall make and preserve records containing adequate and proper documentation of the organization, functions, policies, decisions, procedures, and essential transactions of the agency and designed to furnish the information necessary to protect the legal and financial rights of the Government and of persons⁶ directly affected by the agency's activities.

The initial staff spent much time its first several months defining broad goals, the main ones

being (1) encouraging senior level agency officials to create a written record of their significant activities and (2) helping agencies to ensure that they preserve important records and are able to use them at a future time. As indicated above, this seems to be a particularly acute problem when dealing with electronic records.

In regard to the first goal--insuring that a written record be created--the Documentation Standards Staff is justifiably concerned. Its concern is largely due to an additional distressing aspect to the federal records growth phenomenon: while quantity is growing, quality is not. Indeed, if anything, there would seem to be an inverse correlation between the two. Theodore Schellenberg observed long ago that the more important a matter, the more likely that it would go undocumented, and that the bulk of most records document relatively routine and unimportant transactions.⁷ A 1978 congressional report estimated that "less than 15% of the information that is used in decision making is in documented formal form. The other 85% is informal communication, personal letters, meetings, and telephone conversations."⁸ This failure to document policy decisions, whether attributable to memory lapse, ignorance of the necessity to do so, or to conscious design, is a condition that begs attention.

The Documentation Standards Staff believes that an important part of its mission is to foster an appreciation on the part of federal officials that failure to create important policy documents threatens their agency's institutional memory. For how can agencies move ahead when they do not know how they have reached the point where they are now? And with frequent staff turnover, how can an agency achieve long-term goals with no written material documenting earlier decisions?

The Documentation Standards Staff attempts to personalize its approach to agency officials by posing four questions: (1) Were you able to reconstruct from the written record the

decision-making processes of your predecessors or did you have to rely on word-of-mouth? (2) In three years, will you be able to trace a decision made today? (3) Will your successor be able to determine the rationale for actions you have taken? (4) Will someone in the future be able to identify the role you played in accomplishing the goals of your agency?

Although this unit recognizes the need for quality documentation at top levels of the federal government, it also recognizes that it is limited in what it can realistically do. Staff members can notify agency personnel of existing federal documentation requirements, encourage them to document their activities, and suggest the form for recording particular categories of information, such as the minutes of meetings. But the staff can only serve as facilitators, not dictators. They can not tell agencies how to conduct their business nor do they, as archivists, possess a practical mechanism for monitoring the accuracy of created information. Rather, the Documentation Standards Staff is convinced that to be effective it must be non-adversarial and educate and create a climate that encourages people to do things on their own.

As to the second goal--the preservation of information once created--the staff can help set guidelines for doing so, particularly in the troublesome electronic record-keeping area. Its members can alert agencies to one of NARS' principal concerns: the retrievability of information until its authorized disposition. Additionally, if that disposition calls for transfer to the National Archives, then the information must be in a transportable format. The staff can observe whether agencies are doing what they have asked and what those agencies have said they would do. But it is essentially agency personnel, not archives personnel, who must enforce the guidelines.

The Documentation Standards Staff has planned and is initiating several specific projects. The first is a Presidential Appointees Handbook with component

sections addressing the Privacy Act, FOIA, "personal" versus official papers, the Federal Records Act and related legislation, as well as the implications of using word processors and electronic mail systems to create documents. The staff hopes to make this available to confidential assistants of these new appointees as well.

Another project planned is the development of a series of government documentation standards keyed to common functional areas shared by most agencies. These publications will provide baseline standards clarifying NARS documentation expectations and will attempt to capitalize on existing agency expertise in each functional area. A handbook for the use of Federal Advisory Committee members and their agency liaisons is also planned. It will be designed to facilitate the orderly transfer of committee records of continuing value to NARS.

Other staff projects include a documentation survey of the Department of the Interior rule-making files and clarification of the definition of federal records. This latter issue cuts across many areas, including obvious target categories such as oral histories, personal papers, contractor documents, oral communications, and working drafts. In the area of oral history alone more than ninety agencies are conducting programs, which differ widely in quality, quantity, perceived status, and proposed disposition of the end product.

In assessing what the Documentation Standards Staff is trying to do, it should be clear that they do not think that they have formulated all possible questions, much less their solutions. They must uncover not only the issues, but also ways to address them. Shared knowledge is the only reliable resource humankind possesses for moving forward in a rapidly changing world; it would be foolish not to "network" with others in the same ways computers are doing. That is why staff members are consulting with agencies, governmental groups like the Inter-Agency Electronic Recordkeeping Task Force, professional associations, and archival colleagues, as well as

with the General Service Administration's Office of Information Resources Management, to coordinate and disseminate their efforts.

If this unit succeeds, it will, in large part, be due to the efforts and vision of others. Its members can only hope that all of those who have helped them will feel justified by the results.

NOTES

¹ Thomas Elton Brown, "The Changing Character of Organizational Records" (Paper delivered at the Society of American Archivists Annual Meeting, Washington, D.C, September 1984).

² Seventh Annual Report of the Archivist of the United States (Washington, D.C., 1940-1941), 1.

³ As quoted in Thomas E. Brown, "Adequacy of Documentation: A New Approach to Ensuring Proper Appraisal of Federal Records" (Paper delivered at the Mid-Atlantic Regional Archives Conference Spring Meeting, April 1984), 4.

⁴ Greg Bradsher, "When One Percent Means A Lot: NARS, Researchers, and the Percentage of Permanent Records" (Unpublished paper), 5; Victoria Irons Walch, "Government Records Programs: An Overview" (Unpublished report prepared for the Committee on the Records of Government, February 1984), 33. These figures do not take into account "non-record" documentary materials produced and held within agencies.

⁵ U.S., General Services Administration Bulletin FPMR B: Archives and Records; idem, Bulletin FIRMR: Information Resources Management, 1.

⁶ 44 United States Code, Chapter 31.

7 T.R. Schellenberg, "The Appraisal of Modern Records," National Archives and Records Service Bulletin, no.8,(1956), 244-245.

8 As quoted in Walch, Ibid., 30.

9 "Oral History Survey," The Federalist: Newsletter of the Society for History in the Federal Government , 4 (September 1983): 1,8.