

Perspective

The Implications of *Armstrong v. Executive of the President* for the Archival Management of Electronic Records

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Abstract: This article reviews the arguments presented by both sides in the lawsuit *Armstrong v. the Executive Office of the President*, which concerned the electronic mail created by the Reagan and Bush White House on the IBM PROFS system. It examines the emerging consensus among archivists worldwide on approaches to managing electronic records and considers the ways in which the position taken by the government failed to reflect best practices. Specifically, it examines recent discussions of functional requirements for recordkeeping systems and raises some implications of a functional perspective for archival programs and strategies. It concludes by arguing that archivists will need to play a more active role in the society at large in order to ensure that the broader culture understands and acts on the threats to accountability presented by computer-based electronic communications.

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ON 19 JANUARY 1989, THE FINAL DAY of the Reagan administration, Scott Armstrong (then executive director of the National Security Archive) and others filed a Freedom of Information Act (FOIA) request and turned to the federal court system to ensure that the contents of the White House electronic mail and records system would be subject to archival review before disposition. After repeated efforts to secure the retention of the records by other means, Armstrong et al. sought an injunction prohibiting the destruction of backup tapes from the IBM PROFS system that served the agencies of the Executive Office of the President, including the National Security Council (NSC). This is the same system that earlier achieved substantial notoriety because it revealed that Lieutenant Colonel Oliver North and his superiors had engaged in a scheme to sell arms to Iran and use the profits to aid the Nicaraguan Contras after North had destroyed the paper trails that might have implicated the National Security Council staff in the effort.

The lawsuit filed by Armstrong et al. claims that some information on the PROFS system qualifies either as agency records under the FOIA and Federal Records Act (FRA) or as presidential records under the Presidential Records Act (PRA).¹ They asserted that the Executive Office of the President failed to formulate guidelines consistent with law and regulation for the management of its electronic mail and to implement these in White House agencies. And they contended that the archivist of the United States neglected to carry out his statutory responsibilities with respect to the electronic records on the PROFS system.

The suit asked for relief in the form of implemented guidelines for future electronic mail and for appraisal of the records on the PROFS system at the time of filing.

On the afternoon of 19 January 1989, Judge Parker of the District Court of the District of Columbia issued a temporary restraining order enjoining the government from disposing of the PROFS tapes, and the government agreed to maintain the information that was at that time in the PROFS system until final resolution of the lawsuit. The defendants (the government) then filed a motion to dismiss the case or issue a summary judgment. That case was heard by Charles R. Richey, who denied the motion for dismissal or summary judgment on 15 September 1989.² The government appealed the Richey decision to the U.S. Court of Appeals arguing, among other things, that the plaintiffs did not have standing to sue under the Presidential Records Act because the act did not permit judicial review. The appeals court of judges Wald, Ginsburg, and Randolph ruled that while the claims made by the plaintiffs were within the purview of the records management provisions of the FRA and PRA, the actions of the president under the PRA were not subject to judicial review,³ and the court returned the case to Judge Richey. After considerable maneuvering and many delays in the discovery process, Judge Richey handed down a decision on the substantive issues on 7 January 1993, declaring the procedures established by the White House "arbitrary and capricious" and completely rejecting the claims made by the government that untold harm would result from accepting the claims of the plaintiffs.⁴ At the same time, Richey, who felt he was constrained by the earlier appeals court ruling, declined to review decisions by the

¹The Presidential Records Act of 1978 (44 USC 2201–2207) is referred to here as the PRA, and the Federal Records Act (USC chapter 21, 29, 31 and 33) is referred to here as the FRA, but separate chapters often are referred to by their own names—e.g., the Records Management Act (29 and 31) and the Disposal of Records Act (33).

²[Armstrong v. Bush, 721 F. Supp 343 (DDC1989)].

³[Armstrong 1 924 F.2d].

⁴[Armstrong v. the Executive of the President, 810 F. Supp 335 (DDC 1993)].

president as to what records on the system might be covered under the Presidential Records Act, effectively leaving open a back door to declare any records presidential and then dispose of them without further oversight or archival appraisal.

The Richey decision was also appealed by the government, but the unanimous ruling of the appeals panel upheld the decision against the government on 13 August 1993.⁵ In a cross-appeal, the plaintiffs asked that actions of the president in determining which records were not federal records be made subject to review, and the court reversed the Richey decision in this respect, dealing a second defeat to the government.

While this case may not yet be resolved in a legal sense, the issues it raises both about the specific defenses made by the government regarding the PROFS electronic mail system in the White House and about requirements for archival management of electronic records have been fully laid out in the case to date and are not going to change. I do not intend to contribute to the discussion of the legal issues which may still need to be resolved by the courts. Nor, except in passing to clarify other points, will I comment on issues raised by the case with respect to the doctrine of separation of powers, which are quite obviously unique to the particular setting and irrelevant to electronic records management in general. Instead I would like to focus archival attention on the claims made by the government and rejected by the appeals court which reflect prevalent misunderstandings of the implications of electronic records and on the larger professional challenges presented by electronic records management for archivists. Finally, I will comment on the need this case exposes for archivists to become

involved in policy debate to clarify their role in society.

The Facts

In *Armstrong v. the Executive Office of the President* (EOP; also referred to in this paper by its colloquial name, the PROFS case), both parties agree that the PROFS system was used in the White House for communication among the president and his closest advisers at the NSC from April 1985 and in the rest of the Executive Office of the President after November 1986. Both agree that government officials intended to erase all remaining data on the system at the end of the administration. Both acknowledge that the White House created both presidential records and federal records and that each of these categories of records is governed by separate acts. Both parties also agree that the National Security Council and some other components of the Executive Office of the President are federal agencies and, as such, are subject to the FRA. This requires that 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," [Id. 3101] where the terms *records* includes "all books, papers, maps, photographs, machine readable materials, or other documentary material regardless of physical form or characteristics, made or received by an agency of the United States."

The plaintiffs and the government disagreed about when records are covered by the PRA and when by the FRA. Under the PRA, *Presidential records* are defined as "documentary materials, or any reasonably segregable portion thereof, created or received by the President, his immediate staff or a unit or individual of the Executive Office of the President whose function is to advise and assist the President, in the course of conducting activities which relate to or

⁵[*Armstrong v. EOP*, U.S. Court of Appeals, District of Columbia Circuit no. 93-5083]. This decision is referred to throughout this paper as the appeals court decision or is implied whenever I use the phrase "the court" without further qualification.

have effect upon carrying out of the constitutional, statutory, or other official or ceremonial duties of the President.”⁶ Also, the parties agreed that some records might be personal records not covered by the PRA; the intent of Congress being that “all records which are neither agency records subject to FOIA nor personal records would fall within the ambit of Presidential record” [2201(3)].

The PRA provides that all materials produced or received by the president or his staff “shall” to the extent practicable “be categorized as either Presidential records or personal records upon their creation or receipt and filed separately.” During his term of office, a president may “dispose of those of his Presidential records that no longer have administrative, historical, informational or evidentiary value.” The government argued that this right was absolute and not subject to review, but the plaintiffs successfully argued that the authority to dispose of presidential records was granted only if the president first obtains the written views of the Archivist of the United States and the Archivist states that he or she does not intend to notify Congress of the proposed disposal. The PRA states that the Archivist “shall” request advice of congressional committees as regarding disposals when he or she considers records proposed for destruction “may be of special interest to Congress” or that consul-

tation with Congress would be “in the public interest.” Reversing a ruling of the lower court, the appeals court ruled that, although it had previously concluded that decisions to dispose of presidential records were not subject to judicial review, it did not follow that the president could declare anything to be presidential:

Contrary to the district court, we conclude that the PRA allows limited review to assure that guidelines defining presidential records do not improperly sweep in nonpresidential records. Accordingly we remand to the district court to determine whether the relevant NSC and the OSTP [Office of Science and Technology Policy] directives categorize nonpresidential records as subject to the PRA.

The government argued that any records created by anyone who serves in an advisory capacity to the president at any time are thus presidential records, whereas the plaintiffs successfully argued a narrow interpretation which in effect allows only the specific records created solely for briefing the president to be considered presidential, and then only if they are not previously or subsequently distributed as federal records. The expression used by the court was that federal records “trump” presidential records.

The parties agreed that the Archivist did not give prior authority to the disposal of the electronic records of the PROFS system and the government admitted that the Archivist was advised by the plaintiffs of the proposed destruction of these records before it was scheduled to take place and did not elect to act. Even though Congress was not given an explicit means of vetoing a presidential destruction request, the legislation provided that such a request needed to be received sixty days prior to the proposed disposal date. The clear intention was

⁶The term *documentary materials* is defined to include “electronic or mechanical recordings” [44 U.S.C. 2201(1)]. Documents exempted from the PRA include only (1) agency records subject to FOIA, (2) personal records, (3) stocks of publications or stationery, and (4) extra copies of documents produced for convenience [Id. 2201(2)(B)]. Finally, *personal records* are defined as material of a “purely private or nonpublic character which do not relate to or have an effect upon the carrying out of the . . . duties of the President” [id. 2201(3)], and these are further identified as “diaries, journals, or other personal notes serving as the functional equivalent of a diary or journal which are not prepared or utilized for, or circulated or communicated in the course of transacting Government business.”

that Congress could use political means of pressuring the president if it disagreed with a particular disposal request.

Finally, the PRA requires that the Archivist of the United States "shall assume responsibility for the custody, control and preservation of, and access to, the Presidential records" on conclusion of the president's term of office and that disposal of such records thereafter will require sixty days published public notice. As the Archivist did not take custody of the records, except following the court injunction and then only as a means of securing them physically, this point was not disputed.

Archival Issues Raised by the Case

Armstrong v. the Executive of the President is obviously of great importance because of the nature of the defendant and the records at issue. However, many of the judgments made by the court have significance for the archival management of electronic records outside of the U.S. federal government because they are not grounded simply in narrow interpretations of regulations and law. Rather, they rely on a relatively sophisticated understanding of how electronic communications have come to be used in modern organizations and on the nature of the software employed in electronic communications systems. Specifically, the court dismissed four arguments made by the government which are typically made in other organizations unable or unwilling to manage electronic records.

First, it rejected the government argument that electronic copies are convenience copies if the primary organizational records are maintained in paper format. The court sided with the plaintiffs, who argued that if anything is to be considered a convenience copy in an electronic communication environment it would have to be paper copies. The stated reasons were that more can be done with the electronic record, not all records are copied to paper, and more

information is present about the structure and context of the record in its electronic form.

Second, following standard corporate practices and other court rulings, the court rejected the government claim that calendars and some notes were private and personal information, not government records. The plaintiffs noted that electronic calendars of important White House officials were made available to many people throughout the organization and were essential to the conduct of day-to-day business by many people other than the principals. They pointed to patterns of use and to the intentions of the implementers of electronic communication systems, to demonstrate that these systems have become integral to the operations of organizations, including the White House.

Third, a major issue in the dispute was whether the White House agencies, prior to or following the filing of the case, gave adequate instructions to their staffs to prevent the unauthorized destruction of electronic mail. While this issue was muddled—because the parties never agreed on the basic facts of whether the agencies gave the advice they said they gave, much less whether that advice was legally correct, administratively implemented, or adequate—the court decision in this arena was far reaching. It stated, "The government's basic position is flawed because hard-copy printouts that the agencies preserve may omit fundamental pieces of information which are an integral part of the original electronic records, such as the identity of the sender and/or recipient and the time of receipt."

The FRA states that the national archivist "shall provide guidance and assistance to Federal agencies" [id.2904(a)] and "promulgate standards procedures and guidelines" [Id.2904(c)(1)]. The court decision in effect upholds the standards and guidelines with respect to electronic records that were in place: these state that when both paper and electronic records exist, both

must be separately scheduled because they have different value. The court found that employees had not been given written instructions to print electronic mail notes, calendars, and documents to paper. Further, it found that insofar as employees had “implicitly” been given such instructions by virtue of instructing them how to keep paper records, the instructions were flawed because they suggested that records need only to be printed to paper. The flaw here was twofold: first, the instructions suggested that records need only be copies when the *information* they contain does not exist in any other record, when in fact the same *information* may exist in many records and the fact that they contain the same information does not in any way make them copies. Second, the printing of electronic mail messages would have resulted in the loss of structural and contextual information required to understand their significance, including the names of recipients and senders, the date and time of receipt, the link to prior messages, and full distribution lists.

Thus the basis for the court ruling is identical to the reasoning employed by archivists worldwide (outside the U.S. federal government) in the past few years: structural and contextual data, in addition to the content of messages, are crucial to “recordness,” and “archiving” without capturing such critical evidence is equivalent to destroying the record.⁷

⁷Luciana Duranti, “Diplomatics: New Uses for an Old Science” (Part 6), *Archivaria* 33 (1991–92): 6–24; Barbara Reed, “Appraisal and Disposal” in *Keeping Archives*, edited by Judith Ellis, 2nd ed. (Melbourne, Australia: Thorpe, 1993), esp. 185–200; Glenda Acland, “Managing the Record Rather than the Relic,” *Archives and Manuscripts* 20 (1992): 57–63; David Bearman “Archival Principles and the Electronic Office” in *Information Handling in Offices and Archives*, edited by Angelika Menne-Haritz (New York: K.G. Saur, 1993), 177–93; and David Bearman, “Archival Data Management to Achieve Organizational Accountability for Electronic Records,” *Archives and Manuscripts* 21 (1993): 14–28.

Even assuming, without of course deciding [the issue of copies] that one set of parallel documents retained in a different records system and a different medium than another set may be classified as a “cop(y)” under the FRA and thus subject to unobstructed destruction, the electronic records would still not qualify as “full reproduction(s) or transcription(s); imitation(s) of a prototype . . . duplicate(s),” Webster’s New Universal Unabridged Dictionary 404 (2nd ed. 1979) of the paper print-outs. This is because important information present in the e-mail system, such as who sent a document, who received it, and when that person received it, will not always appear on the computer screen and so will not be preserved on the paper print-out.

Finally, the court found that electronic mail was used for substantive business communications but that neither the White House nor the archives treated PROFS as a recordkeeping system. The intention of PROFS, according to IBM (which was quoted in court briefs), was to “reduce your dependence on mail, telephone and other conventional systems” so users can “perform daily office jobs” such as sending and receiving messages, keeping calendars, scheduling meetings, and storing documents. Affidavits filed in the case make it clear that PROFS served all these roles in the White House and that it was increasingly heavily used. The court noted that “the 1,300 federal employees with access to the EOP and NSC electronic mail systems can, and apparently do, utilize them to relay lengthy substantive—even classified—‘notes’ that, in content, are often indistinguishable from letters and memoranda.”

Additionally, testimony makes it clear that users of the system considered it “unusual” for information in PROFS to be

thought of as a "record." In the White House, as in many other organizations with integrated office automation systems, employees were expected to delete most of the information in the electronic system on a regular basis for the convenience and ease of the data center. They were given no written instructions on how, when, and by what criteria to do this, nor were the deletions considered actions of disposal with respect to recordkeeping requirements. Until May 1993, when the EOP decided to implement a front-end program, the PROFS system was not set up to permit differentiation between types of records at the time of creation. Even then it only allowed the individual who created the record to code whether it was "personal" or "record" (as required in this case by the law). It did not establish any review procedure for deletion of nonpersonal materials (although such a procedure was also required and specified by law). In addition, the designation given to a record was subject only to the record creator's judgment, in this case informed by a faulty briefing on the law, and was not subject to archival review.

Unfortunately, the passive role played by the U.S. National Archives in this situation was not atypical of the role played by archivists elsewhere. In the selection and implementation of the White House PROFS system, archivists were not included among those defining the initial procurement, and their requirements were not taken into account. In response to the court, a front end enabling users to classify the archival value of their own records was belatedly constructed, but no criteria were defined for determining record status, and no automatic criteria (such as capturing any information sent to other individuals) were implemented. Archivists were not involved in the review of materials selected for deletion or in the definition of filing structures. The Archivist of the United States in this case, as is true of archivists in most such cases, did not take custody of electronic

records of the office (even though the law states that, when the administration ends, the archivist "shall assume responsibility for the custody, control, and preservation of and access to" all records). Such action was not taken in part because the archives lacked experience and competence to process such material. The Archivist of the United States was found negligent for not reporting the imminent destruction of the records when he found out about it, not demanding better records management practices for electronic mail at the White House, and not promulgating guidelines with sufficient specificity to be followed by agencies. Like his counterparts in archives elsewhere, the archivist had not done so because he lacked an intellectual framework in which to ground such guidelines.

Toward an Approach Based on Functional Requirements

A framework of guidelines for archival management of corporate electronic records was in the earliest stages of being articulated in 1989, but it has since been very much more fully elaborated and can now serve as a basis for practical action to ensure that electronic information systems create and maintain records. The PROFS case even contributed to framing some of the issues in the emerging archival professional consensus, but the case made by the U.S. government appears to have been frozen at the very time that the archival community worldwide was making tremendous strides toward resolving the issues raised by electronic records management. As a consequence, the position taken by the government in the PROFS case is not informed by the best thinking that has taken place since 1989.

In January 1990, a group of experts (including several members of the National Archives and Records Administration [NARA] staff) attended a meeting, held under the aegis of the Benton Foundation,

which sought to establish a professional consensus regarding how best to approach the archival management of electronic records. The meeting, which was called specifically to see if the profession could develop consensus around issues raised by the PROFS case, focused on systems design and implementation strategies in addition to policy.⁸ At the time, the conclusions reached at the meeting were reported only in *Archives and Museum Informatics*, a technical newsletter addressed to a relatively small segment of the archival profession. At their request, the names of some NARA and Office of Management and Budget participants in the discussion were not reported. But the degree of consensus and the extent of the framework adopted by that group was tremendous, and, even though it was not reflected in subsequent legal briefs by the U.S. government in the PROFS case, the position advanced at that meeting became a common foundation for the work conducted by many of the participants (including Charles Dollar of the NARA Research and Evaluation Staff) in the years that followed. It is useful to review the conclusions of that conference in the context of the appeals court decision in the case of *Armstrong v. the Executive of the President* because the thinking of that group and of the court coincide.

The group agreed that the ultimate solutions to electronic records management problems would come only when archivists were involved in defining the requirements for new systems acquisition and applications implementation. This has become the basis for numerous efforts since then to define functional requirements for electronic records systems. The meeting also agreed on ten steps for implementing acceptable

(if not ideal) records management control within existing systems:

1. **Reinforce to users that electronic data may be records.** In the PROFS case the government minimized the recordness of these systems, referring to them as telephone surrogates and convenience copies. The language used by the White House, even when it was defending its practices, did not emphasize the fact that electronic documents are presumptively records; rather, it acted as if being a record was an exception, if not even an exceptional case. If, as the government asserted, it instructed employees to copy to paper those electronic documents that “rise to the level of a record,” it was simultaneously conveying to them that their superiors did not feel that these systems created records.

2. **Identify the organizational requirements for access.** Records required by more than one individual are communicated transactions. People other than the author must therefore have access to them. Determining why and for how long the organization needs to have a record is a critical task in information management. In the PROFS case the government claimed that calendars made for distribution to many parties were, nevertheless, private personal records not subject to FOIA. The court rejected the concept that a record that was disseminated as a basis for action by others within an organization could be considered personal.

3. **Establish that documentation is a basic management responsibility.** Without formal accountability in mid-level management for documentation of all programs, there will not be such documentation. In the system established at the White House, there was no responsibility beyond the individual record creator and no reporting of creation of records and destruction patterns by the system. Even though this guidance acknowledges that archivists on their own cannot ensure that electronic records management guidelines will be followed, it as-

⁸David Bearman, “Electronic Office Records: Report of a Meeting Held at the Brookings Institution, January 11, 1990,” *Archives and Museum Informatics* 4, no. 1 (1990): 12–15.

sumes they will be present and involved; in the White House PROFS case, the archivist disclaimed any responsibility and the court found that the guidelines adopted by the White House did not even contain the correct interpretations of the definition of records, of responsibilities of individuals, or of the degree of agency authority over records.

4. *Require program managers to establish guidelines for use of systems that are dictated by organizational policy interests; do not permit guidelines to be driven by the data center or systems administrators based solely on system administration efficiencies, such as reducing storage loads.* The guidelines established by the White House were driven by convenience of data center managers or by the administrative interests of individual agencies rather than by the broader interests of the federal government as a whole. Interestingly, the fact that users of the PROFS system did not care about records policies at all (and that no method was introduced into system design to ensure that these policies would be acted on), acted in the public interest in the end. The system as it was backed up under injunction on the final day of the Reagan administration was replete with electronic mail dating from the inception of the system, despite the instructions from data center managers to delete records.

5. *Begin establishing guidelines with systems that may otherwise not produce paper trails, like electronic mail.* Needless to say, the White House did not follow this advice.

6. *Construct shared files and common files structures and naming conventions to support retention decisions and access.* No guidelines are provided to users of the White House system about how they could implement a central electronic filing system instead of storing ideosyncratic directories in a physical file that happened to reside in one place. Even distributed networks of personal computers can achieve a virtual

central file by rigorous adherence to such conventions.⁹

7. *Implement backup procedures dictated by the requirements of the application area.* In the White House, knowing where advice comes from, who gave it, who signed off on it, and when it was communicated are all critical application requirements. But the procedures implemented to save electronic mail, even if they had been used, were particularly deficient in capturing the structural links and contextual data necessary to reconstruct these fundamental evidential properties.

8. *Define the data to be captured including stamps of creation and use which need to be defined and implemented through system.* The court decision focused on documentation of the creation of records and found it necessary to retain structural and contextual information along with the content of the record. Although the court did not address documentation of the use of records, provisions are made for tracking access to files in paper record systems in the EOP. The use of electronic documents, however, was not audited by the systems set up in the White House.

9. *Avoid the guidance to 'print records out to paper' unless all the data in the system can be routinely printed out and will be filed.* While the experts assembled in 1990 could not completely agree on never printing records out to paper or microform, they agreed completely that it would be acceptable only if all the associated data about the record, including data known only to the system (such as permissions), was assembled in a meaningful relationship to the content and also printed out. The White House made no provision for this requirement.

10. *Adopt only administrative solutions that pass the tests of operational utility and*

⁹National Archives of Canada and Treasury Board Secretariat, *Information Management: Managing Your Computer Directories and Files* (Ottawa: 1993).

legal acceptability. Archival concerns *per se* are tertiary. The decision in the PROFS case settles whether the approach used was legally acceptable, but the approach definitely failed the test of operational utility. Some individuals never deleted a record during their tenure, while others routinely deleted everything. No systems were in place to conveniently retrieve a specific record unless the name given it by the record creator was known. No guidance was given to employees on how to organize files and no facilities were provided to do so conveniently. Finally, the authority given to individuals to make decisions about what constitutes a record and to remove those which they did not want to have serve as evidence violates the basic principles of bureaucratic accountability, as well as the principles of government accountability to its citizenry.

Since January 1990, substantial work has been done to extend the analysis of the functional requirements of recordkeeping systems and define strategies for ensuring that information systems create, maintain, and provide access to records, not just to data. The first major study bringing together a strategy for archival management of electronic records was a policy guideline drafted for the United Nations Administrative Coordinating Committee for Information Systems (ACCIS) and subsequently adopted and published by them. In the body of that document, I proposed a working definition of electronic records that was suitable for articulating systems requirements.¹⁰ According to this definition (which has since been widely adopted elsewhere), records are information that participates in "transactions." The guidelines further focused attention on the documentary re-

quirements of business applications rather than of software applications, files, or particular transactions—a source of some confusion in the PROFS case, where answers are often sought in terms such as "What should we do with electronic mail?" rather than in terms of the business applications and transactions that alone define the appropriate retention period for records.

The ACCIS report also stated the requirement to be able to segregate records and nonrecords at the time of creation and to protect their recordness, including contextuality and structure, over time. These requirements, which were then addressed insofar as they could be satisfied through policy approaches taken alone, have been incorporated into subsequent statements of functional requirements for electronic recordkeeping.

During 1989, the National Archives of Canada was working through the Office Systems Working Group of the Treasury Board in an effort to define the functional requirements of a corporate office application that satisfied records management requirements.¹¹ Reports from that project, including the software application specification called FOREMOST and the studies of office systems implementations conducted under the Information Management and Office Systems Advancement (IMOSA) project, informed archivists worldwide. These studies emphasized the identification of records, the filing rules that determined how records would be maintained over time, and the requirement that archives must be preserved so as to be "available, usable and understandable."¹²

¹¹Transport Canada Integrated Office Services, *Model of Generic Office Functions Summary Report*, DMR Group Inc., 20 December 1989.

¹²National Archives of Canada, *The IMOSA Project: Information Management and Office Systems Advancement Phase I Report* (Hull: 1991); *The IMOSA Project: Functional Requirements for a Corporate Information Management Application (CIMA)* (Ottawa: November 1992).

¹⁰United Nations, Advisory Committee for Coordination of Information Systems (ACCIS), *Management of Electronic Records: Issues and Guidelines* (New York: United Nations, 1990; UN sales no. GV.E.89./0.15).

The National Archives of Canada IMOSA project has also defined "Functional Requirements for a Corporate Information Management Application" (November 1992) and conducted surveys of vendors to establish what high-level requirements of corporate information management applications are currently satisfied by the marketplace.¹³

In 1991, the international consensus about approaches to electronic records management was advanced by meetings of experts in Macerata, Italy; Perth Australia; and Munich, Germany. The proceedings of these meetings have subsequently been published, and the findings have been reinforced by workshops I, and others, led in 1992 and 1993.¹⁴ More recently, as a result of the activities of the National Archives of Canada, the Australian Archives, and the National Historical Publications and Records Commission conference on research issues in electronic records, a consensus is emerging in English-speaking countries among archivists, records managers, auditors, Freedom of Information and Privacy Act administrators, and security personnel on the data that are required to ensure that a record constitutes evidence.¹⁵

A major study under way at the University of Pittsburgh has codified an initial draft set of requirements which has had input

from a broad segment of the knowledgeable community (see page 685-86).¹⁶ Additional elements of a full functional requirement are being sought, and the criteria incorporated into the draft are being tested in a variety of locations. These functional requirements, the reasons for their definition and promulgation, and the ways archivists can use them are discussed elsewhere in the literature. The important core of the requirement, however, is the way in which it reiterates the importance of content, structure, and context in the capture, maintenance, and access to records. The essential theme running through the requirement is that not all information is a record. Records are tied to transactions by contextual and structural links that are not necessarily part of their content and may even belie their content. (As do, for example, the postdated check and the distribution list containing names of people who never were sent copies.) The fundamental archival concern is to ensure that records are evidence, are retained with their evidential properties intact, and are available as evidence when they are needed in the future.

Do We Lack Authority or Will?

In the *Armstrong* case, the government claimed that the actions of the president with respect to his records were not subject to judicial review and that, even if they had been, his actions in issuing guidelines to White House staff about retaining records would place him in full compliance with the law since it falls to the president as executive and as agency head to determine what is and is not a record. The same claim is essentially made by any manager who asserts that he or she can determine what is a record. In the face of such claims, given the realities of electronic communications

¹³National Archives of Canada, *The IMOSA Project: An Initial Analysis of Document Management and Retrieval Systems* (Hull: November 1992).

¹⁴Charles Dollar, *Archival Technologies and Information Theory: The Impact of Information Technologies on Archival Principles and Methods* (Macerata, Italy: University of Macerata, 1992); Angelika Menne-Haritz, *Information Handling in Offices and Archives* (New York: K.G. Saur, 1993), 177-93; Dagmar Parer and Ron Terry, eds., *Managing Electronic Records: Papers from a Workshop on Managing Electronic Records of Archival Value* (Dickson, NSW: Australian Council of Archives and Australian Society of Archivists, 1992).

¹⁵National Historical Publications and Records Commission, *Research Issues in Electronic Records* (Washington, D.C.: NHPRC, 1991).

¹⁶David Bearman, "Record Keeping Systems," *Archivaria* 36 (1993):16-36.

Functional Requirements for Recordkeeping Systems

The University of Pittsburgh study asserts that recordkeeping is a critical function that is performed through the collective action of individuals and systems throughout all organizations. Recordkeeping is not the province of archivists, records managers, or systems administrators alone but is an essential role of all employees and of individuals in their private lives.

Recordkeeping systems are information systems that are distinguished by the fact that the information they contain is linked to the transactions they document. Records may be consulted for documentation of those transactions or because they contain information that is useful for some completely separate purpose, but recordkeeping systems do not just contain data to be reused. They maintain evidence over time.

Recordkeeping systems support the corporate memory of organizations by supporting business functions of the organization. All business functions require records of business transactions in order to continue their day-to-day operations, satisfy administrative and legal requirements, and maintain accountability. The following functional requirements for recordkeeping systems define a corporate requirement for any recordkeeping system, not the application requirements of archives and records management systems.

These functional requirements were specifically developed to provide guidance for the management of electronic recordkeeping systems, although they are equally applicable to manual systems. Information systems professionals should note that business functions, business processes, business transactions, and business records—rather than system functions, system processes, system transactions or system records—are the consistent focus of recordkeeping.

The following characteristics define the functional requirements for recordkeeping systems.

I. Compliant

Recordkeeping systems should comply with the legal and administrative requirements for recordkeeping within the jurisdictions in which they operate, including specific requirements not referenced below.

II. Accountable

- **Responsible:** The organization must have policies, assigned responsibilities, and formal methodologies for management of its recordkeeping systems.
- **Implemented:** Records must have been created and maintained in the normal course of business, and documented procedures that were followed should conform to common practices in the industry.
- **Credible:** The system must control quality characteristics of information being input and must process information in a fashion that is consistent and accurate.

(continued on page 686)

that are so easily compromised, do archivists require a kind of authority they previously have lacked? Or can they fulfill their mission only by acting in a different manner and at a different time than was required with paper records?

The Archivist of the United States was held to be in contempt of court (although

this order was subsequently dismissed for technical reasons on appeal), because he failed to act to protect electronic records as soon as he knew they were going to be deleted and because Acting Archivist of the United States Trudy Petersen failed to develop and promulgate standards for governmentwide management of electronic

Functional Requirement for Recordkeeping Systems

III. Functional

Recordkeeping systems must capture, maintain, and access evidence over time. If they do, records will be

- **Complete:** Records accurately capture all information recorded or generated by their creators. Records incorporate, or link to, a representation of the software functionality that created them, other versions or views, a data model of relations between elements of information within a record, eye-readable conventions (such as placement or font), and other structural information that adds to their meaning. Records incorporate, or link to, information about the context of their creation.
- **Identifiable:** A distinctive and bounded record exists for every business transaction.
- **Authentic:** The system must validate records creators and/or authorizers.
- **Communicated:** The system must capture a record of all communication in the conduct of business between two people, between a person and a store of information available to others, or between a source of information and a person.
- **Sound:** Record integrity is protected from accidental or purposive damage or destruction and from any modification after records have been received by anyone other than their creator.
- **Auditable:** Record documentation traces the processes in which records participated—including indexing, classification, filing, viewing, copying, distribution, disposition, use, and destruction—throughout the record's life. Management controls preserve the audibility of interactions external to the system (such as during media migration or transfer).
- **Understandable:** Records documentation should permit stored business records to be logically reconstructed. Information content, plus any structure and context, must be preserved in meaningful and documented relations. For records with functionality, evidence should be correctly associated with the status of the system at the time of record creation and later.
- **Removable:** It must be possible, with appropriate authority, to remove records from the system, leaving only audit trails to document their prior existence.
- **Exportable:** Record content, structural representation, and representation of context must be exportable, in standard protocols if such protocols exist.
- **Available:** The system must document all logical archival records it contains, indicate the terms under which they are available for research, and retrieve them for authorized users.
- **Renderable:** The system must render records, by display or otherwise, as they appeared to creators. Views in effect at the time a record was used, or the structural data necessary to determine such views, must be retained.
- **Redactable:** The system must support delivery of redacted, summarized, or censored copies and must keep records of any such versions released.

[Draft—May 1993]

office systems. Obviously the court did not believe that Petersen subsequently lacked authority, but they were applying a standard to the timing of actions with respect to electronic records, a standard that would

have been quite unusual to demand for paper records.

The need to expand the actions of archives, if not their actual legislative authority and possibly even their mission

statements, was recognized by the National Association of Government Archives and Records Administrators (NAGARA) conferees at the Pittsburgh summer institute in 1990.¹⁷ The state archivists gathered at this meeting issued a final series of papers in which they envisioned archivists as taking an active role in the development and requirements of systems and their operation within agencies. A similar position was taken in the United Nations ACCIS report, in which the identified policy requirements included policies that specified the relationships between archivists and systems development/implementation staff. That report also argued that unless the archivists could influence systems design they would be unable to exercise the kind of control over records, based on activities in which those records participated, that is required to ensure the satisfaction of the documentary requirement of an application.¹⁸

A proactive stance based on achieving data administration control over active records was recommended to the Archivist of the United States by the National Institute of Standards and Technology (NIST) in 1989.¹⁹ NIST argued that the Archivist needed to define governmentwide standards for data dictionaries and to establish a unified information directory system for the government in order to control the electronic records of the office systems adequately. A role of NARA in building a metadatabase, called the Federal Information Locator system, was proposed when

this concept was first enacted as law in the Paperwork Reduction Act and urged on NARA by this author in 1981.²⁰ Unfortunately, it is evident from their response to NIST that the NARA staff did not understand how to implement metadata guidelines to document documentation.²¹

By 1990, archivists in the New York State Archives and the National Archives of Canada (institutions that led the way in establishing programs for the management of machine-readable records) concluded that unless the archives enter into agreements with agencies about the desired result of records management programs (e.g., adequate documentation), they will need to be involved in the design of every electronic system, or in the specification of requirements that will govern the acquisition of every system, in their governments. John MacDonald and his colleagues in Canada were at that time already working on specifications for office records systems (the FOREMOST specification), and Margaret Hedstrom and her colleagues in New York were exploring system-level appraisal of multiagency and multijurisdiction electronic information systems.²²

At the 1990 NAGARA conference, five of six speakers in two sessions devoted to these topics reached agreement that what was required on the part of archivists was a willingness to depart from the way in which they have managed the paper record.²³ This departure would include direct

¹⁷[R.Cox], "Archival Administration in the Electronic Information Age: An Advanced Institute for Government Archivists" (Pittsburgh: University of Pittsburgh School of Library and Information Science, June, 1989).

¹⁸ACCIS, *Management of Electronic Records*, 17-70.

¹⁹National Institute of Standards and Technology, *Framework and Policy Recommendations for the Exchange and Preservation of Electronic Records: A Report Prepared for the National Archives and Records Administration* (Washington, D.C.: NIST, 1989).

²⁰David Bearman, "The National Archives and Records Service: Policy Choices for the Next Five Years," *For the Record*, December 1981, p. 1ff.

²¹David Bearman, "Documenting Documentation," *Archivaria* 34 (1992): 33-49.

²²Alan Kowlowitz, *Archival Appraisal of Online Information Systems*, Archives and Museum Informatics Technical Report, no. 7, (Pittsburgh: Archives and Museum Informatics, 1988).

²³David Bearman, ed., *Archival Management of Electronic Records*, Archives and Museum Informatics Technical Report, no. 13 (Pittsburgh: Archives and Museum Informatics, 1991).

or indirect involvement in the definition of information systems requirements based on the documentary requirements of applications, and it would probably also include a willingness to consider not taking physical custody of electronic records in favor of exercising control over them.

If it is the case (and it may be in some instances) that government archives programs lack the statutory authority to intervene in the definition of up-front systems requirements based on archival policy requirements, or that they lack the authority to exercise control without custody, archivists should be out lobbying legislatures to establish these authorities. In their arguments for such powers, they should employ the illustration of cases, such as the PROFS case, which demonstrate this need. The legislatures and the governing boards and authorities under which nonpublic archives are administered need to understand that the problems confronting archivists in the management of electronic records will not be solved by employing the techniques that were used to control paper records. New techniques may or may not require new authorities, but if they do, archivists should be prepared to argue for them.

Recently the recognition that electronic records management may require new activity on the part of archives has led to a discussion of program strategies for archives, especially for electronic records. One implication of these discussions is the possibility they present for a radical redefinition of the archival profession and a reintegration of records management and archives. These two areas were severed in many programs over a decade ago, but they must be recombined if electronic archival records are to be imagined.²⁴

²⁴David Bearman and Margaret Hedstrom, "Reinventing Archives for Electronic Records: Alternative Service Delivery Options" in *Program Strategies for Electronic Records Management*, Archives and Museum Informatics Technical Report, no. 18 (Pittsburgh: Archives and Museum Informatics, 1993).

Public Understanding of Records Policy Issues

Regardless of the outcome of *Armstrong v. the Executive Office of the President*, the broader society in which we live needs to reach an understanding about the nature and importance of records and the issues affecting the retention of electronic evidence if archivists are to have any role in the twenty-first century. This lawsuit may or may not be resolved by the recent appeals court ruling, which could be further appealed until mid-November 1993 and which in any event will not be the last legal tangle in this complicated case. The Freedom of Information Act request that lies at the heart of the case has not yet been acted on, and it is unlikely that the government will release any records under that request for many years. But electronic communication systems will play an increasingly important role in the formulation and execution of public policy, as shown by the recent development of a national health care policy by a loose community of advisers communicating to a great extent over the Internet. If our citizens do not reach a deeper appreciation of the need for evidence in the emerging "electronic democracy," that rubric will rapidly become a misnomer. I believe that archivists have a responsibility to put the issues more squarely before the public. In not taking a political stand and clearly articulating the responsibility of government administrators for the creation and maintenance of an accountable record, they have shirked that responsibility and will, I fear, pay for their timidity with their professional identities and future careers.

As I write this in 1993, archivists have yet to take an official position in the case of the ex-Archivist of the United States who participated in a direct assault on the integrity of the electronic records of the Bush administration.²⁵ Four months after being

²⁵David Bearman, "Archivist Abdicates Responsibility

served with a contempt citation (since lifted), the present, Acting Archivist of the United States has yet to respond to the court demand that she promulgate governmentwide guidelines for management of electronic mail systems. Although this case eventually will be resolved on its merits and will profoundly affect the way archivists handle all electronic records, not only within the U.S. government but in all the states, the Society of American Archivists (SAA) has not yet been heard. The plaintiffs in the *Armstrong* case include the National Security Archive, the Center for National Security Studies, the American Historical Association, the American Library Association, and several individuals, including former U.S. Senator Gaylord Nelson. The case for the plaintiffs is being argued by Alan Morrison of the Public Citizens Litigation Group and Kate Martin of the American Civil Liberties Union Foundation. Where is the SAA?

Archivists must craft a position that will secure public backing for the electronic record and the actions taken to preserve it. Archivists should have been on the front lines of a political battle for judicial review of presidential records decisions. As long as archivists lack, or feel they lack, the authority to require appraisal of these records, they should be welcoming judicial review as a step that will result in ordering the archival appraisal of these and similar records. The fact that the Archivist of the United States was a defendant in this case should have been further reason for archivists to join the lawsuit in defense of the true position of archives rather than to allow the executive branch to legitimate as archival a position that not only would have effectively placed the president above the law and above judicial review, but also would have totally subverted the intention

of both the Presidential Records Act and the Freedom of Information Act.

Like the appeals court, archivists should reject completely and publicly the position taken by the National Archives that records are what the head of an agency defines them to be. They should abandon the pernicious concept that information "rises to the level of a record," which contradicts the archival concept of records as documentation of transactions and which has no place in law. Archivists should demand that NARA promulgate for electronic records guidelines that base records retention requirements on documentary requirements of business applications, not on software utilities. If necessary, archivists should go to Congress with a request to change the authorities of the National Archives in order to be able to manage electronic records effectively. The current position of the NARA Center for Electronic Records and of Acting Archivist of the United States Trudy Petersen—that no changes in NARA practice are necessary to cope with electronic records—is dangerous, deluded, and destructive.

Court cases are important not only for the resolution of the specific issues at hand but also as arenas in which broad cultural understandings of the nature of responsibilities and technologies can be exposed. *Armstrong v. the Executive Office of the President* revealed that a variety of issues having to do with archival accountability are unresolved in the minds of government employees and that misunderstandings of electronic records requirements are common among information system administrators. If archivists do not use this and other opportunities to articulate forcefully what we expect from records creators and systems designers and to extend our mission and authorities both legally and in practice, we will lose most of the archival record of the next decade and squander our role as protector of the public interest in documented and accountable government.

ity," *Archives and Museum Informatics* 7 (Spring 1993): 1-2.