

ELECTRONIC RECORDS MANAGEMENT

Why Records Are Important in the Information Age

This article provides an in-depth review of the subject of electronic recordkeeping and what it means to records managers. Starting off by questioning the basic definition of records, the author then looks at current research efforts in the field, considers why records are created and managed, and summarizes with a description of why records are important in the Information Age and the responsibilities of records professionals in today's society.

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In this article I am concerned with five closely related issues. First, I discuss how we need to approach the definition of records, which I perceive to be the main business of records professionals. For records managers and archivists who believe that their main business is information, I also agree, except that we need to remember where the information comes from—it derives from the evidence found in records. Second, I briefly review some of the recent research being undertaken on electronic records management that may help records professionals to understand more about their business and even lead to tools that will help them practice. While I am only introducing readers to a bit of what is going on, it might prompt people to examine some of these projects and to understand that they may help records professionals function in the real world. In the third section, I return to the idea of considering why records are

created in the first place and why they need to be managed. All of the research projects that I will have described relate to and inform us about this essential matter. Fourth, I discuss a few specific cases about why records are so critical, a window on the growing evidence about the importance of records. Finally, I summarize with a description of why records remain important in the Information Age and what this importance should say to records professionals about the nature of their responsibilities in society.¹

DEFINING RECORDS AND OURSELVES

Why am I writing of records, those old things with little meaning to information professionals in the wonderful age of information? Aren't records the things we are leaving behind? Aren't we evolving to higher planes of understanding and new forms of communication and learning?

I am writing about records for

two reasons. First, this journal is still entitled the "*Records Management Quarterly*," and it is still published by the Association of *Records Managers and Administrators*; if for no other reason than this, I believe someone ought to write about "records." Second, the wonders of the Information Age have also obscured some fundamental truths as well. In Robert Wright's interesting book about science, information, and metaphysics, he made this astute comment: "The information age has made human society more comprehensible in principle and more inscrutable in practice, clearer from afar and murkier up close."² I think the same has happened to records professionals. The Information Age has helped records professionals better define themselves conceptually, but it has also helped them to lose sight of the details of their responsibilities. What should have occurred is that records professionals moved away from thinking of records as only clerical or historical functions to understand records as

valuable, even critical, assets to an organization and society.

Individuals seeking how to design optimum office systems have often resorted to studying how offices work by observing behavior and tracking processes. Fifteen years ago one such study concluded as follows:

“Standard procedure is constituted by the generation of orderly records. This does not necessarily mean, however, that orderly records are the result, or outcome, of some prescribed sequence of steps. Standard procedures are formulated in the interest of what things should come to, and not necessarily how they arrive there. It is the assembly of orderly records out of the practical contingencies of actual cases that produces evidence of action in accordance with routine procedure. This is not to say that workers ‘fake’ the appearance of orderliness in the records. Rather, it is the orderliness that they construct in the record that constitutes accountability to the office procedure.”³

This is testimony to the fact that records are real things, and not something to be imagined or reimagined in the modern Information Age. Records exist because of mandates, needs to do real activities, and result as the normal products of business and other work—and it has been that way for a very long time. These particular office workers seeking to place order in their records are not doing it for their amusement, but they are doing it because they are required to do so, or they need to do so so that they use their records. While modern technologies provide the opportunity for us to do many interesting things, these same technologies do not mean that we constantly have to start over with what we, the records professionals, have long been responsible to do and support. If anything, the developments of the late twentieth century only mean that we have new opportunities for success, that we have to be more innovative than perhaps we have been, and that we have to work harder to position ourselves to accomplish our objectives.

Many have written about the negative and positive aspects of

computers in our lives. In fact there is a remarkably dense collection of such writings now, so diverse in perspective that it would be possible to build extensive personal libraries focused on one way or the other of looking at the various dimensions of the modern Information Age.⁴ Now I am not mentioning these in order to launch into the pros and cons of electronic records and recordkeeping systems, but only to stress that records professionals need to be aware that they must evaluate just what they are giving up as they work in the modern information environments. Records have a historic and continuing importance to us and our institutions. Meanwhile we need to remember what computers represent, as Fred Moody recently stated: “For all of its apparently miraculous powers, the personal computer is little more than a mathematical jukebox, a Wurlitzer of digits. ... The computer, then, is a high-speed simpleton. ... The story of the personal computer revolution is the story of humankind’s success in coping with the computer’s shortcomings.”⁵ We need to make computers do what our organizations and society need them to do, and one of those things is create and maintain records simply because records continue to serve a useful role in society and because their creation and maintenance are still mandated. Records professionals need to guide how records systems are designed, maintained, and determined to be used or destroyed at critical points in the system’s existence.

I am not a technological determinist by any stretch of the imagination, but I do believe that the computer has woven itself into every aspect of our society. The computer has largely disappeared, for much of society, as an obstacle to overcome or a tool to master. Computers are in our toasters, automobiles, and in nearly every other facet of the average person’s daily life. We bank by computer. We socialize by computer. Some might say we think best when in front of the computer (I think that may now be true for me at least). But we have not seen the technology woven into the archives and records management profession. Any standard textbook in these fields treats elec-

tronic recordkeeping as a special problem, discussed in a separate chapter; and, I speculate, many records professionals skip right over that chapter. Our professions represent cultures increasingly diverging from that of our society. In fact, there is often little overlap in how records management, archival administration, and electronic records management are now discussed. How can that continue if records professionals mean to be successful in managing records? Records professionals need to accept the fact that, for better or worse, records for every institution or even every person are moving into the electronic realm. I have a retired friend who only started using computers when he retired and who, except for older personal papers and family papers, maintains his records in electronic media, surfs the Internet, and is even exploring how to digitize those older personal and family items. We will see more of that kind of personal transformation as well.

Have records professionals reached the Promised Land due to the increasing sophistication of computers and electronic recordkeeping systems? Hardly. There are problems wrought by the computer that are really serious. From the business perspective, some are questioning whether computers have done what they were supposed to do—make us and our organizations more productive and efficient. Then there are the side effects of computers—threats to privacy, questions of durability, the challenges of linkage, the rolling costs of updates and replacements, and the ever-present debates about the information haves and the information have-nots. Many of these will be resolved in time, just as other earlier technological revolutions’ side effects have been resolved. The one that archivists and records managers most often bring up is the seeming continuing reliance on paper because there is a lot of paper still visible in offices, forcing us to remember that we are still in the early stages of the computer revolution.⁶ Michael Heim, in his *Electronic Language*, writes that “in the infant stages of the computer revolution ... very few working writers actually think of their words as residing on magnetic media in digital form.

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Most still continue to print out their work at all stages of composition, save hard copy drafts, and even do revisions on the hard copy and transcribe them back to the computer.⁷ But this was written a decade ago, and much has already changed. We are moving to the point where the real records will be kept in electronic form, and paper will be a convenience copy only and not needed to be managed in any real fashion.

But the issue we now face as records professionals is to make sure that the records are protected in ways that are needed by the records creators and, at times, society. We know that many archivists and records managers lost sight of the record, becoming absorbed with either the artifact or with information. Archivists became absorbed with thinking of historic records as museum objects to be curated. Records managers became absorbed with thinking of current records as items to be managed in large warehouses, just as supermarket managers have done with their grocery stock for the better part of this century. It is a time for rethinking such matters.⁸

For a long time archivists and records managers saw the encroaching machine-readable (then electronic, now digital) records as major challenges to face. The problems with information, reflected in our so-called Information Age, relate to matters of source reliability, creation context and purpose, and how information could be and is perceived by the person on the other end. In other words, the modern Information Age has done us a favor because it has raised for many technologists and policymakers the kinds of issues records professionals have been discussing for generations. Whether they realize it or not, other professionals are grappling with real records concerns. Records professionals need to communicate to them that this is what they are doing.

Meanwhile, archivists and records managers have waffled all over the place, in many cases taking themselves out of the forum for dealing with the records essential to organizations and society. Archivists have become more oriented to manuscript curatorship, focused on collecting and focused on the original manuscript as if the manuscript were a museum artifact. One explanation for this has been the archivist's close association with historians, and the archivist's belief that he or she was serving solely these interests. In many cases, this led to the preservation of the artifact for what information they contained. Information is what connects the archivist to the records manager. Records managers seem to have abandoned their responsibility for records in favor of information management; now, this seems at first fine because it represents an effort to relate to the growing reliance on information technology. But there is one problem—it weakened a definition of record to something like "any information captured in reproducible form that is required for conducting business." This caused records professionals to lose, of course, the basic substance of a record: evidence, transaction, structure, content, and context. But the growing dependence on the computer—a literal machine—has forced us to come back and try to figure out more precisely what are the functions or particular aspects that constitute a record. This should provide archivists and records managers many opportunities for influencing what organizations and society need to do in regard to administering records.

We have long possessed a working definition of records, stressing the fact that they document a specific activity or transaction and that this documentation has a particular content (information), structure (form), and context (relationship to a creator, function, and other records). A record is a specific entity. Records are transaction oriented. They are evidence of activity (transaction), and that evidence can only be preserved if we maintain content, structure, context. Structure is the record form. Context is the linkage of one record to other records and to the originating pro-

cess. Content is the data or information, but content without structure and context cannot be data or information that is reliable.

This is not a new definition, extending back to the very origins of writing. Anthropologist Jack Goody, in his *The Logic of Writing and the Organization of Society*, stated that from the beginning the "written document served as evidence and guarantee of the legitimacy of a transaction."⁹ Writing was tied into the very heart of organizations, record-keeping, and the varying information technologies. Nevertheless writing, communication, and records have become a more crucial concern in recent years, as seen in the PROFS case in which John Poindexter responded to Ollie North's message about his lying to Congress about the Iran Contra dealings with "well done." "Well done" is the content, the internal structure is the form of the electronic mail message with header and other information, and the context is that the message was sent via the White House PROFS system, from the National Security Council, on a specific date, and so forth. All three elements are vital to this "thing" being a record and to being a record documenting a transaction and to providing evidence. The elimination of any portion of this undermines its "recordness." It would be akin to photocopying in black and white a color-coded map or microfilming in black and white a rare book with no data on binding, paper, or other dimensions of its physical structure. A re-focus on the essence of the record brings us back to a clear mission as well as helping records professionals to re-emphasize strong archival functions such as appraisal to support corporate memory, accountability, and evidence.

There are at least two proposals for what requirements for a record should look like, but since they are both very similar I will emphasize the one that I am most familiar with, the recordkeeping functional requirements based on a project at the University of Pittsburgh School of Information Sciences. First, the requirements must take into account the fact that all organizations are answerable to other organizations; that is, in many organizations, their records are dictated in

form, function, and even owe their existence to laws, regulations, and requirements. The recordkeeping functional requirements must include the capacity to maintain such links and to adjust as the external regulations change. Second, the recordkeeping systems must have an internal accountability within the organization; that is, there must be policies, responsibilities, and formal methodologies for the management of the systems. They also must create records when records are required, and they must ensure that the records thus created are credible. Then, the systems must be able to ensure that there are functional records, the heart of the recordkeeping requirements. What constitutes a functional record? Records must be captured as part of every transaction, be identifiable, complete, and be able to be authenticated. Records must be able to be maintained in the system, for as long as is necessary. Finally, records must be able to be usable, that is, they must be able to be exported when necessary, be accessible when they need to be used, and redactable as needed.¹⁰

While some can quibble with the particulars of this view of the record, I believe it would be difficult to go very far from this definition and still have something that looks like a record. We could strip away from an automobile the engine, wheels, and axles and have something that might appear to be an automobile but which certainly could not function like an automobile. What would you strip away from this model?

We face some obvious choices about how we define a record. Many definitions in recent records management textbooks opt to try to place records managers into the information professions or information resources management of an organization by trying to define record around the concept of information. Information has always been a fuzzy concept, often placed on a continuum from data to information to knowledge to wisdom. In a new course I am teaching entitled "Understanding Information," I must have thirty different definitions of information, ranging from the biological sciences, mathematical formula, psychological and be-

havioral disciplines, and so forth.¹¹ I am not arguing that there are not other definitions of information that are not relevant or that they might not inform records professionals about how they should design better recordkeeping systems, but I am arguing that records professionals need to know what they believe to be the essence of that peculiar form of information found in records.

This business about defining records is rather surprising on one hand, not so surprising on another dimension. The surprise is that we need in the computer age more precision for our dumb machines to support our systems. The lack of surprise is that this is a pretty obvious means to raise one's status, that is, using a trendy concept such as information. The definition of a record that stresses its essential characteristics is far superior because it provides the basis for a concrete set of parameters that can be broken down into various components allowing for the development of software or modification of software to provide a substantial support for records. All of this also brings records professionals to the essence of the archival or records management mission. As records professionals would we only be interested in assisting an organization to preserve information, or are we endeavoring to help organizations meet fiscal, regulatory, administrative, and other aims via the identification of records in the electronic, networked organization? Of course, it is the latter that is the more valuable course of action.

One of the primary problems records professionals face, then, is the issue of terminology. Some of this terminology is easily understood and adapted as needed, but some of it reflects seriously different perspectives on what business records professionals are in. For example, in the data processing world a record can be defined as no more than "A set of related data or words, treated as a unit."¹² This is acceptable for many purposes, but it does not capture the full notion of a record. To be trendy or to try to tie onto what we perceive to be the most resource-supported aspect of the organization, we have been too quick to mimic such definitions. So when we see a definition such as a

record is "any information captured in reproducible form that is required for conducting business,"¹³ all records professionals should be concerned. Records professionals should be even more concerned when they read that records management is the "management of any information captured in reproducible form that is required for conducting business."¹⁴ This is hardly a useful definition, nor does it adequately capture all the reasons why records are created or maintained. More bluntly stated, why do records professionals need to substitute information for records, when they know that records are an important source of information?

The definition of the most basic aspect of the records professional's work takes on greater importance when we realize the nature of the challenges we face in the late twentieth century. In 1994, electronic records expert Margaret Hedstrom wrote that "Our society inherited many of its institutions and practices for documenting human activity from the paper and print era. Records were defined as physical entities on which information is recorded as a logical structure. Although the definition of records has been expanded to encompass new media ... the physical record and its logical structure were inextricably linked until the advent of electronic recordkeeping."¹⁵ In the same year, Canadian archivist Terry Cook wrote that "for the first time in 3,000 years of records management and archival activity, we have too much rather than too little information." He added that "For the first time, we have records that do not exist to the human eye." "For the first time, we have business officers and professionals creating and storing their own records rather than relying on an army of secretaries, file clerks, and records managers to do this work for them." And, "Most important, for the first time, we are not producing, managing, and saving physical things as artifacts."¹⁶ I am sure we could add many other things to this list, and this is probably why records professionals need to determine what new approaches they need, to understand the implications of what new research and development has been done, and to

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have some sense of what more they need to do. Records managers need to keep in mind these words—"Scarcely a new invention comes along that someone doesn't proclaim it as the salvation of a free society," written by Langdon Winner in his cautionary tale about our attitudes toward technology.¹⁷ Computers will not free records managers and archivists from their assigned tasks. In fact, they will make their work more difficult if they allow themselves to get lost in the wild west of the new information society. They need to keep our roots grounded firmly in the records business.

RESEARCHING ELECTRONIC RECORDS MANAGEMENT

During the past four or five years, some research projects have emerged that help to conceptualize the basic parameters of the work of records professionals. At the least, these projects have developed some products that can assist records professionals to communicate with the information technology and information policy professionals in our organizations and society. What we need to keep in mind as we review these recent research projects is that records and automation have been connected at least since Hollerith's work on the punch card calculator led to the first computer company. The point in all this is simply that we have been at this a long time, that we need to remember that recordkeeping has long been tied up with technology, and that we need to realize that technology is only a tool for us to make records and recordkeeping systems better. In fact, records professionals need to remember that they can go back to earlier technologies, from the development of cuneiform on clay to printing on paper to the typewriter and carbon paper to microfilm to the evolution from the first primitive computer. The pow-

erful personal computers and networks of today are simply the latest in a long line of technologies, and they too are the descendants of tools designed to help us manage the information most normally found in records. These particular projects move records professionals back to the business of records.

Most of the projects I describe here derive from a 1991 National Historical Publications and Records Commission-sponsored research agenda on electronic records and archives. A series of ten questions were developed concerning what it is records professionals want to see the evolving electronic systems be able to support. There were mistakes and omissions from this original agenda, well-documented in the writings of University of Michigan faculty member Margaret Hedstrom, but as a whole the meeting and resulting agenda enabled records professionals to begin to deal with some important topics that had been too long ignored. The University of Michigan School of Information held a second research agenda meeting in June 1996, and the individuals gathered there evaluated progress made since the 1991 agenda and composed an updated research agenda.¹⁸

Let me start with what I know best, and with what has been already reflected in some of my comments about the nature of records, by describing the University of Pittsburgh project to develop functional requirements for evidence in records and recordkeeping systems. In our project we were examining several broad issues, emanating from the previous decade's discussions, successes, and failures with the management of electronic records. Our first aim had to be to draft the recordkeeping functional requirements, a somewhat ironic activity since archivists and records managers supposedly had been concerned with records for a very long time. The second aim was to try to gain an understanding of how and why organizations use hardware and software, with the hope that increased understanding about this would provide guidance in how the recordkeeping functional requirements could be used (or not used). Third, and finally, we wanted to learn how the software used by par-

ticular kinds of organizations might fit with the functional requirements. In hindsight, these objectives may have been a bit overly ambitious, but I think we tried to take on such a large amount of research since so little research had been done previously.¹⁹

The most important thing we discovered is that there is such a thing as a warrant, which is only the justification for a functional requirement for recordkeeping that can be found in professional literature, standards, regulations, and best practices, all the things that control the conduct of records professionals and that of the recordkeeping organizations. These warrants identify the authority on which the functional requirements are based, and they should also increase the likelihood of their acceptance and implementation within organizations. Warrants provide the language that other professionals understand, raising the better possibility of their being supportive of records management because organizations are already committed to meeting many of these standards, laws and best practices. In other words, these sources have an authority that should enable records professionals to meet their mission. In some ways, this is the authority that records professionals have long strived to achieve within their own organizations.

The University of Pittsburgh project's main accomplishment was the development of functional requirements for recordkeeping for *evidence*. After being compliant (supporting the idea of warrant), we stressed three main components of functional records. Such systems have to capture records, encompassing records that are comprehensive, identifiable, complete, authorized, accurate, understandable, and meaningful; they have to be able to maintain records, encompassing inviolate, coherent, auditable, and removable; and they have to be able to be used, encompassing exportable, available, renderable, evidential, and redactable. The concept of the functional requirements for recordkeeping has resonated in the records community, and a number of other institutions around the world have adopted, adapted, and experimented with these requirements.²⁰

There is another project going on that might be of some value for getting at the heart of what a record is and aid records professionals in ensuring the reliability of electronic recordkeeping systems. The University of British Columbia School of Library, Archival, and Information Studies project, "The Preservation of the Integrity of Electronic Records," has a number of goals similar to those pursued by the University of Pittsburgh: to establish what a record is in principle, and how it can be recognized in an electronic environment; to determine what kind of electronic systems generate records; to formulate criteria that allow for the appropriate segregation of records from all other types of information in electronic systems; and to define the conceptual requirements for guaranteeing the reliability and authenticity of records in electronic systems.²¹

The primary difference between this project and the one at the University of Pittsburgh has been the University of British Columbia's reliance on the archival science of diplomatics originally developed in the seventeenth and eighteenth centuries. Reliability, in this sense, refers to a record's authority and trustworthiness, and authenticity stands for a record's reliability over time and is linked to the record's status, mode, and form of transmission and the manner of its preservation and custody. Reliability and authenticity together equate this project's notion of integrity.

From our vantage at the University of Pittsburgh we see the similarity of their record elements with our functional requirements minus the denseness of diplomatic terminology. We wonder about the wisdom of using diplomatics in the very rigid form that they follow, seen in their emphasis on physical custody in opposition to our distributed control concept. We believe that records professionals can control records without having physical custody of them, and we believe that the concept of physical custody is rapidly becoming obsolete in the electronic Information Age except when recordkeeping systems must be re-evaluated as a last resort.²² In any event, the University of British Columbia project provides an excellent opportunity for comparison and

contrast, testing, and related work that should enable records professionals to move much farther along in developing practical electronic systems that maintain records. In other words, it is possible to see that these two projects, starting from very different premises, reflect a fairly strong consensus about the most basic elements of a record.

There are other noteworthy projects that have provided considerable feedback to records professionals about the management of electronic records. The New York State Archives and Records Administration "Building Partnerships" project is probably the most comprehensive analysis of the state of affairs in electronic records management in a state government. This project essentially found that there was a lack of an adequate or coordinated information policy, that agencies were focused on information not records systems, and that policies and procedures were inadequate for ensuring reliable records in electronic systems. This is an earlier project, but it remains by far the most useful profile of what is happening in the realm of the use of information technology for records and related matters in an organizational setting.²³ The Philadelphia Electronic Records Project may be one of the two most important projects because it is trying to use the Pittsburgh recordkeeping functional requirements in the development of an electronic human-resources recordkeeping system (among other things). We may learn precisely just how practical and acceptable the Pittsburgh recordkeeping functional requirements (specifically its "business acceptable communications" reference model) are in real world scenarios. Its stress is on the development of one electronic recordkeeping system, that of the municipality's human resources information system, and by virtue of this effort we will learn a lot about how well records can be created, used, and maintained in an extremely important and central function for most organizations.²⁴ The other important project is the Indiana University effort. This project is also a test of the Pittsburgh functional requirements which should tell us much about the practicality of the metadata. It has focused on

two systems, one related to student files and the other dealing with fiscal issues, and it will also help records professionals to modify the requirements necessary for revising these functional requirements.²⁵

Some other efforts are worth mentioning in the context of recent research, although they represent more practical development efforts than research. The Australians have formulated a records management standard that incorporates the Pittsburgh records definitions and functional requirements. According to this standard, records are "recorded information, in any form, including data in computer systems, created or received and maintained by an organization or person in the transaction of business or the conduct of affairs and kept as evidence of such activity." The standard mirrors the idea of a compliant organization as used by Pittsburgh as well as many of the other functional requirements developed by this project.²⁶ The standard also builds on the Australian notion of the records continuum. The records continuum is a rejection of the life cycle concept, because of the perception that that concept artificially separates the work of archivists and records managers and because it suggests a concern with the management of the record as a physical entity. The records continuum suggests that records professionals are concerned with the delivery of frameworks for accountable recordkeeping regimes that enable access to essential evidence found in records for governance, accountability, corporate and collective memory, witnessing of both personal and collective identity, and value-added information for new uses.

Other organizations have gone beyond standards to establish particular practical approaches. Another development effort worth considering is the Canadian National Archives Management of Electronic Records in an Office Systems Environment project. This project has built around the idea of the corporate memory of organizations, and it has gone a long way toward experimenting with some practical systems with specific guidelines, pilot efforts, and prototypes. Most importantly, this effort predates the work of both Pittsburgh and British

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Columbia, but it reflects the broader organizational contexts and purposes for maintaining records.²⁷ Even some businesses are moving to experiment with new approaches to the management of electronic records. The Swedish pharmaceutical company Astra has established a plan for managing its electronic lab notebooks. Among other things it includes the concept of "causa" that gets around the problem that a business transaction can be a single event or a set of events perceived by the business as one meaningful thing. The term is borrowed from Latin and simply means that which creates a record; hence a causa, rather than a business transaction, creates records, even though most of the time a single transaction equals a causa. There are also some references to the Pittsburgh "business acceptable communication" model as part of a suite of standards that will provide the potential for managing electronic records.²⁸

RETHINKING WHY RECORDS ARE CREATED AND NEED TO BE MANAGED

These recent research and development initiatives should lead records professionals back to the essential matters of just why records really matter, and how they should be thinking of records. One of the tests I sometimes give entering archives and records management students is to have them empty their wallets or purses in order to see what kind of records or evidence of records are contained therein. The point of the exercise is obvious—records are important to every single individual. Our lives are documented by records, we are followed by records everywhere we go, and we are often influenced by what records tell about us. In this exercise, we can see the trace of warrants from government, contractual arrangements, society, and personal and family incentives for the maintenance of records. Why is it that

records professionals have not managed to convey this message in such a way that captivates the attention of society, policy makers, and others? The problem can be seen by considering some specific examples, these examples providing some sense of the problem records professionals have had in formulating and delivering their message.

There are many reasons why records can be deemed to be important, and please note that the idea of information is part of all of these but also subservient in importance. Accountability could be defined in a government setting, for example, as providing evidence that government carried out its responsibilities and that its decisions, actions, and transactions are and were consistent with and supportive of legislation, regulation, policy, procedures, and best practices. This supports the idea of James Madison, that "If men were angels, no government was necessary."²⁹ Could we not also say that if people were angels, no records were necessary? As Kevin Kearns in his book on *Managing for Accountability* suggests, accountability systems involve a higher authority vested with power for oversight; measure or criterion used by the higher authority to assess compliance or performance; and some sort of explicit reporting mechanism for conveying information to the higher authority.³⁰ This sounds suspiciously like records to me. The higher authority could be the concept of warrant, the measure or criterion could be the recordkeeping functional requirements, and the reporting mechanism could be the records themselves.

We know how important government information is in a democracy, and we know how important it is for information to be hidden in a totalitarian regime. Anne Wells Branscomb, in her important recent book *Who Owns Information? From Privacy to Public Access*, notes that there are four different types of government information, that necessary for citizens acting as voters; necessary for residents to comply with law; necessary for meeting the purpose of a particular agency; and necessary to support critical functions that cannot be undertaken by private sector, such as gathering census data.³¹ Yet, we also know

the world is changing rapidly in terms of its technological means and perspectives on information, as suggested by Howard Rheingold with his statement that "If a government is to rule according to the consent of the governed, the effectiveness of that government is heavily influenced by how much the governed know about the issues that affect them ... The political significance of computer-mediated communications lies in its capacity to challenge the existing political hierarchy's monopoly on powerful communications media, and perhaps revitalize citizen-based democracy."³² If records are not factored into the equation here, there is no way of accomplishing such purposes. We run the risk of losing ourselves such as described in a bestseller of a few years ago: "Many walk with notebooks, to record what they have learned while it is briefly in their heads. For in this world, people have no memories. ... A world without memory is a world of the present. The past exists only in books, in documents. In order to know himself, each person carries his own Book of Life, which is filled with the history of his life. ... With time, each person's Book of Life thickens until it cannot be read in its entirety. Then comes a choice. ... Some have stopped reading altogether. They have abandoned the past. ... Such people have learned how to live in a world without memory."³³ We should not seek to try to live in a world without memory, without records.

Records professionals also need to bear in mind that records are not just the products of technological achievements, but that they are the products of, or at least influenced by, a variety of social, economic, and other factors.³⁴ Technology is only one factor here, although its degree of importance can certainly shift to a higher plane at times than other considerations, and perhaps we are in one of those times. For example, we know, for better or worse, that we operate in the government sector with mutual concerns about access to information and privacy about information, as reflected in the Freedom of Information Act

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(1966) and the Privacy Act (1974). Clearly, if you are working in a government context, and making decisions about records and the use of certain types of technology, then you need to keep such considerations, indeed mandates, in mind as you work.

Keeping such concerns in mind becomes really important because of the speeding changes caused by the technology and our adoption of them. The reason that a concept such as recordkeeping requirements has become so important is that the increasing storage capacity and declining costs of the capacity have enabled organizations to consider entirely new means of communicating and documenting their activities. Why have a paper record when you can have an electronic version that can be transmitted across the world in a few seconds? Why have an electronic record that is only text when you can have a record with sound and image, providing the capacity for more powerful and persuasive records? Moreover, the ease of copying and transferring electronic records in a networked environment is extremely easy, making the transition to electrostatic photocopying in the 1960s look like a minor matter and as primitive as carving messages in rock. Then again, users of the electronic systems need to know that a record is sent when it is supposed to be transmitted, that a record has been effectively redacted, and that the record was received and read. In other words, the legal, best practices, administrative, and other concerns for records will seize on the opportunities posed by the powerful computer technology, even testing such limits and changing such limits! The recordkeeping functional requirements provide a means for evaluating the effectiveness of a recordkeeping system for providing ongoing maintenance of records. They also may help to lift the eyes

of archivists and records managers beyond worrying about every scrap of paper and maintaining warehouses of paper records, especially when a growing portion of these paper records are little more than convenience copies.

RECORDS IN THE NEWS

Does any of this have any basis in reality, or is it all just some sort of academic mumbo-jumbo? Archivists and records managers need a clear message and a loud voice because of the continuing and perpetual issues regarding records that become public controversies or that are important to the public. Questions of access to records, the ownership of public records, the challenges of copyright, and even personal rights are all discussed in the daily newspapers and on the evening news regularly. Just before the 1996 presidential election, the *New York Times* ran an article on the ethical issues that the Clinton-Gore administration needed to be working to resolve. Nearly all of the eight issues concerned records.³⁵ But where are the archivists or records managers? Often they have no voice, nor are they visible. In my study of archives and records management issues in the *New York Times* I discovered very few instances where archival perspectives were clearly presented. In fact, the only time an archivist was discussed was when former Archivist of the United States Don Wilson was being criticized for making his midnight deal to transfer the Reagan-Bush Iran Contra electronic records over to Bush as he left the White House.³⁶ Are records professionals so dusty that they are embarrassed to come out of their stack caves? Are records professionals so preoccupied with running warehouses that they cannot look up and out of their records centers?

Sometimes the issues hit very close to home, indicating that the problem with the management of records may rest more with the problems generated by inadequate enforcement clauses in laws and policies. On June 2, 1995, an editorial in the *New York Times* addressed the problem that the former governor of New York had taken his records with him as he left office: "ignoring the pleas of state

archivists, [the governor's] office declined to provide internal memos and other material from his files, and from the files of his top aides. ... New Yorkers should not have to rely on the generosity of outgoing governors to know the full history of their state government."³⁷ The first thing that needs to be stated here is that the law, like that of many states, does not require the governor to turn his records over to the state government archives. So, no law is being broken here, and what's the issue? The issue is that in the 1980s the New York State Archives and Records Administration emerged as the *leading* state archives and records management program in the United States and the *model* for many other archival programs. Consider from where it had come. In 1975, New York *finally* staffed a state archives and in 1979 it opened its doors to the public—the *last* state to establish a formal government archives. Over the next twenty years the state archives made a number of innovative actions: it undertook an ambitious study of needs for archives and historical manuscripts management; it knitted together the archives and historical manuscripts professional communities for the first time; it produced several major studies on electronic records issues and it created a Center for Electronic Records, the state leader in this issue; led by State Archivist Larry Hackman it positioned itself to be a player in state information policy initiatives; it took over the dormant records management program and developed innovative new policies for making the program self-sufficient; it built one of the strongest state archives staffs ever assembled; it led in the passage of legislation for two systems of advisory programs—one for local governments and the other for historical records programs; and it produced many award-winning publications and videos for the management of archives and current records. So, what is going on here with the governor's records? With all this success, all this leadership, why did the state archives and records administration program fail to secure the governor's records?

The government and its records have always been something of a

problem for records professionals and all those concerned for the management of records. In a recent study on government and privacy, the following was stated: "Government is not necessarily the worst offender, but it is the single biggest collector and distributor of information about citizens. This itself increases the probability that such data may be acquired and used under questionable, if not illegal, circumstances. History is filled with instances of government taking liberties with its surveillance capability. Because bureaucracies by definition are powerful and seek to enhance their hold at every opportunity, computer technology makes it easier for our worst totalitarian tendencies to go undetected."³⁸ Through recent years we have had to read about the disclosure of records documenting secret radiation experiments in the 1950s to continuing problems with the Clinton White House and its administration of records.

Government is not the only challenge or the only entity in the daily news concerning the management of records. We also see records figure prominently in other concerns from organizations with impacts on society. Consider the medical situation. A *New York Times* editorial, November 15, 1995, stated that "Private medical information is being bought and sold freely by companies that have ignored a patchwork of varying state laws that have made it difficult to transfer those records across state lines."³⁹ The disclosure of the so-called "Cigarette Papers" and the continuing concern with the way the tobacco industry manufactures and markets cigarettes has moved into a page one story practically on a daily basis.⁴⁰ The Mormon murders case of a decade ago relates even to the involvement of religious organizations in the matter of the disclosure of sensitive records, and in this case, the forgery of records concerning the origins of this church.⁴¹

The so-called culture wars and the debates about the veracity of postmodernist scholarship also have most often revolved about the use of records. The Enola Gay exhibit controversy had much to do with how historical records were being inter-

preted in the design of this exhibit at the Smithsonian Institution about the end of the Second World War and the decision to drop the atomic bomb.⁴² There have been continuing debates about whether the Holocaust actually occurred, and reams of writings have emerged presenting vast amounts of evidence about the historicity of this; ironically, the Germans were meticulous record keepers and the quantity of evidence indicting them is overwhelming. Yet we have increasing evidence about how many in countries like Germany and Japan would like to put behind them the degree of crimes against humanity committed by their leaders just a half century ago.⁴³ The debates about exhibits in this country, and about matters like textbook censorship and multicultural perspectives that often raise myth and fable to even planes with clear historical evidence, reveal that we are prone to the same kind of activities. Archivists and records managers' tasks are increasingly important in our current social climate, one that sometimes suggests the wisdom of wanting to erase the memory represented in our records and to weaken the accountability that such records should reflect.

REMEMBERING WHY RECORDS ARE IMPORTANT TO RECORDS PROFESSIONALS

If records are that important to society, then it should be obvious why records are important to the information professionals in the Information Age. Not too many years ago, Luciana Duranti reminded records professionals that the "functions of the keeper of records were regarded as being as vital to society as those of other high functionaries, and that the creation and preservation of useful and meaningful records were considered the essential foundation of a strong society."⁴⁴ As this statement suggests, there is something very important in the ancient tradition of records, their importance, and the importance of those responsible for them. But this implies that records professionals have to get back to the basics, the essence of what we do. Records professionals are experts on recordkeeping systems who know about the principles derived

from the nature of records and recordkeeping systems and who guide the manner in which records are managed. Records professionals have an ancient and honorable function, perhaps one that is far more important now than it was two millennia ago!

Records professionals can be more optimistic when they consider how far they have come in thinking. They have moved from debating about electronic data as records through an emphasis only on social science data archives approaches enabling them to move certain types of files into repositories to a far more invigorating debate about policy, the relevance of archival principles, and, best of all, a return to what their focus should be—the record. All of the debates continue, but I am convinced that the more logical focus on the primacy of the record will win out and this will cause a new type of archives and records management operation to emerge. Just ten years ago, former archivist now information manager Richard Kesner wrote that "if we [archivists and records managers] do not change the way we view the purpose and nature of our performance within our parent organization, I expect that before too long we will be relegated to the antiquarian curatorial role that we have heretofore rejected as a misplaced 'popular' notion of what an archivist does for society."⁴⁵

The foundation of and rationale for recordkeeping requirements are quite simple. They really point back to why records are created and maintained in the first place, and this gets everyone back to the issue of what is a record. There are legal reasons for maintaining records, and records—when called in for legal purposes—must be verifiable as the legitimate record. There are best practices that stem from various professional disciplines and experts—such as accountants and administrators—that indicate how records must be able to be used as needed. David Bearman refers to auditors, journalists, lawyers, FOI and privacy officers as the "accountability" professions, and it is these professions—both within and without the organization—that records professionals must work closely with in developing legitimate

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recordkeeping systems. Moreover, in an electronic environment records must be able to be specifically defined—that is, in exact fashion—because that is how the computer functions. This is why the definition of a record must be specific and why these specific requirements must be able to be satisfied; in other words, how can we determine that this record is what we are looking for? The purpose of the requirements is to provide a template for design into electronic recordkeeping systems that enable the integrity of records to be protected as long as is necessary. The purpose of these requirements is to give the archivist or records manager something understandable to say to the systems designers. The designers may not understand the importance of records or archives, they may never understand this, but they should be able to understand the definition of a record when it is broken apart into these specific requirements.

There are some deliberate options records professionals can make about how they can go about their jobs and how they can cope in society. If records professionals try to resist technology they will, without question, isolate themselves increasingly from the hub of society. Some say we will never have the paperless office, and there is evidence to suggest that that is right; but, will these paper records be anything other than convenience copies? If records professionals isolate themselves, they lose out on the ability to be able to fulfill their mission. However, if archivists and records managers take to the technology and see in it the opportunity to manage better archival records, they may become more important players within their organizations and society. We know that the archivist in many ancient societies had an important function, with the

appropriate status, to protect the authentic records. We also know that increasingly, in articles in popular journals such as *Scientific American* and the *Atlantic Monthly*, that essays are appearing asking archival and other records questions—that is, asking questions records professionals have the answers to, or that they should have the answers for, at least.

Records professionals can become the Information Age's pothunters. Pothunters, in the archaeological sense, have been described in this fashion: "Archaeological protection became a question of philosophy and guardianship. As long as making a collection offered an avenue to enhanced professional status, remote archaeological sites ... were vulnerable to pillage by professionals. ... The situation encouraged archaeologists to behave irresponsibly, even overturning walls in search of pots and burial locations. In their haste, some did not even take field notes. Often a site excavated by these professional pothunters lost much of its potential value to archaeological science."⁴⁶ Records, without the advice of records professionals, can lose the full potential of their value in the Information Age.

For nearly three decades archivists and records managers have viewed electronic records as a problem. As I have described earlier, there are some distinct challenges represented by the increasing use of and reliance on electronic systems; but challenges can also be opportunities. Records professionals need to stop thinking of electronic records as problems, and, instead, they should try to look at the pros and cons of these systems. The advantages are the potential for each transaction to capture all the information needed, they can be easier to search and retrieve, and they can be audited for each and every use. The disadvantages are mainly that many of the traditional archival and records management approaches, such as scheduling and appraisal can't be used (although there is evidence that many just resist changing their methodology). The biggest challenge may be the continuing concern with migration, although I have to admit that paper records

also have a similar problem (migrating to a digital format than needing to migrate from there actually adds one more level of cost and hassle).

There are a number of changes that the shift to electronic recordkeeping may bring to the archives and records management disciplines. Records managers may shift from costs and reducing risks to the organization to a focus on risk management—what are the risks in disposal, in retention, and so on. The obsession with scheduling and paper warehouses may shift to a new role in recordkeeping systems design and implementation. Archives are going to become post-custodial and shift to a broader but more focused role in corporate memory and accountability via recordkeeping systems design and locator systems for records. This will be a much more strategic and visible role. All in all, the aims will shift to evidence preservation, accountability, stressing continuing access, and risk management. Recordkeeping functional requirements are essential for these new or expanded roles.

Records professionals need to move from an orientation on records warehousing and archiving for historical research to roles that make these professionals relevant to our organizations and support better some of the more traditional roles of our professions in society. Records professionals need to focus on policies, not being the recipient of policies (or lack thereof) that undermine records management. They need to stress assisting the design of recordkeeping systems, not trying to deal with the results of poor systems. They need to stress recordkeeping systems monitoring instead of waiting for records to become endangered or for them to be dumped on our doorsteps. And, they need to stress the development of technical standards for records in electronic recordkeeping systems that overcome some of the current problems.

These kinds of issues are not new, as historian M.T. Clanchy reminded us when he wrote that, "When documents produced by the king's government began to prolifer-

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ate in the twelfth century, they also were accepted because, by and large, they used traditional materials and skills. The changes which were made in the technology of writing ... went largely unnoticed by contemporaries ... Techniques of writing records tended to be conservative because conservation was their main purpose."⁴⁷ As this study of medieval recordkeeping and literacy also suggests, "Documents did not immediately inspire trust ... A modern literate tends to assume that statements in writing, especially if they are in print, are more reliable than spoken words. This assumption is the result of schooling in reading and writing from an early age and the constant use of documents, such as bills, for even the smallest transactions."⁴⁸ Nine centuries later, similar challenges were faced as new information technologies brought new opportunities and problems to the office: "Merchants at the turn of the nineteenth century kept the traditional means of control—family partnerships, the southern 'gentleman's code,' the community relations that bound farmer and storekeeper—only so long as technologies of information processing, transportation, and communication remained underdeveloped."⁴⁹

Archivists and records managers have long adhered to a definition of record that cuts across the recording format. This continues to be an ideal notion, although it is always somewhat counterbalanced by the concept that the format does convey some of the evidence of any particular record. Recording formats should not be obstacles for archivists and records managers; now, I base this on the fact that archivists and records managers should be scholars of recordkeeping technology. They should have such a substantial body of knowledge about recordkeeping systems that they can understand how a new sys-

tem relates to, builds on, rejects, or challenges earlier systems. There should be no shock of the new with archivists and records managers, even if there are challenges to be met about the specifics of managing such systems. Moreover, the emergence of new recordkeeping technologies should represent opportunities for archivists and records managers, in that they can influence the more advanced systems to provide better security for the archival record and for the maintenance of records for all the reasons such as evidence and accountability.

There are increasing documentation, predictions, concerns about social, legal, political, and other problems caused or intensified by the increasing reliance on the computer. Who will have access to the information and records? What about privacy? Are offices of the future destined to be little more than electronic sweatshops? Who owns information? These and a myriad of other such concerns suggest opportunities for individuals and professions with solutions. Solutions will be welcome, and in the case of archivists and records managers, the solutions may open up the doors for generating support for archives and records management objectives. The other opportunity is the fact that an increasingly computer-literate society will bring rising expectations about access to information and has the potential to win new allies from the public and policy makers. Think of it in this fashion: archives have often been viewed as convenient trash cans to send old records, while many records management programs are seen as little more than warehouses for paper records. The changing nature in which society and organizations use records will force different roles and different expectations. It also means that every archival function will be up for grabs, and this should provide the opportunity to try new strategies with better chances for success. We might be able to gain more information about users, or we might be able to try a new appraisal approach with more objective and strategic criteria. Again, this will be for records professionals to decide and to convince others. Archival programs will also have the oppor-

tunity to be transformed—from custodial operations to decentralized programs with responsibilities for policies, procedures, gatekeepers. The opportunity will be to cease viewing records as artifacts and to see them as dynamic, vital sources for administration and other purposes.

In all this records professionals need also to remember not to become too prone to rely on predictions of technological wonders. As Thomas Landauer recently suggested, "In the 1960s it was predicted that within ten years computers would convert ordinary speech and handwriting to print, comprehend and compose natural language, drive trucks, do housework, and tutor students better than professors could. Thirty years later many proponents see no reason to change these predictions; they still expect them within ten years."⁵⁰ Some of these predictions became truly fantastic, as technology critic Mark Slouka has written: "We ... need to see two things very clearly ...: first, that the computer—no longer just an information processor—was rapidly developing into a sort of deluxe copying machine, increasingly capable of imitating certain aspects of our lives; and second, that a large number of very smart, very influential people believed that this computer copy should, and eventually would, replace the original it imitated."⁵¹ A focus on the record and on our basic responsibilities as records managers should help us to eliminate or reduce such problems.

If anything, the thing records professionals need to be concerned about is how and when they, as records professionals, are able to intervene on the development of modern recordkeeping systems. I do not want to try to describe the systems development life cycle, but it is worth knowing that this is increasingly the life cycle, not the records' life cycle, that archivists and records managers will need to be attentive to in their work. Recordkeeping functional requirements must be known as early as the requirements analysis stage, perhaps even the proposal stage since the proposers must know something of the record before proceeding too far. The archivist and records manager

will need to know that a new system is being designed, that it will need to maintain records, and how the archivist and records manager can become involved in the process. The other critical stage will come as replacement planning and migration are under way, a stage which will hopefully include evaluation of difficulties in maintaining records and making sure that these difficulties will be resolved (and the only way to enable this to happen is to place the recordkeeping requirements out on the table).

In order to do this, to work with the technologists and the policy people in our organizations, records professionals need to be able to know they have something both important and specific to say. I believe we do. Records are important. Records are real things. Now, records professionals simply need to communicate this more effectively.

ENDNOTES

1. The basis of this article was a presentation at the Managing Electronic Records Conference sponsored by Cohasset Associates and held in Chicago on November 4-6, 1996.

2. Robert Wright, *Three Scientists and Their Gods: Looking for Meaning in an Age of Information* (New York: Harper and Row, 1988), p. 173.

3. Lucy A. Suchman, "Office Procedure as Practical Action: Models of Work and System Design," *ACM Transactions on Office Information Systems* 6 (1983): 326-327.

4. For a sampling of recent writings critical of the Information Age, refer to Sven Bierkerts, *The Gutenberg Elegies: The Fate of Reading in an Electronic Age* (Boston: Faber and Faber, 1995); Barry Sanders, *A Is for Ox: Violence, Electronic Media, and the Silencing of the Written Word* (New York: Pantheon Books, 1994); Clifford Stoll, *Silicon Snake Oil: Second Thoughts on the Information Highway* (New York: Anchor Books, 1995); Edward Tenner, *Why Things Bite Back: Technology and the Revenge of Unintended Consequences* (New York: Alfred A. Knopf, 1996); Herbert Schiller, *Information Inequality: The Deepening Social Crisis in America* (New York: Routledge, 1996). For a sampling of writings with a positive view of the Information Age, refer to Richard A. Lanham, *The Electronic Word: Democracy, Technology, and the Arts* (Chicago: University of Chicago Press, 1993); Nicholas Negroponte, *Being Digital* (New York: Alfred A. Knopf, 1995); Arno Penzias, *Digital Harmony: Business, Technology and Life After Paperwork* (New York: Harper Business, 1996); and Lawrence K. Grossman, *The Electronic Republic: Reshaping Democracy in the Information Age* (New York: Viking, 1995).

5. Fred Moody, *I Sing the Body Electronic: A Year With Microsoft on the Multimedia Frontier* (New York: Penguin, 1995), p. 51.

6. A good discussion of these kinds of issues is Thomas K. Landauer, *The Trouble with Computers: Usefulness, Usability, and Productivity* (Cambridge: MIT Press 1995).

7. Michael Heim, *Electric Language: A Philosophical Study of Word Processing* (New Haven: Yale University Press, 1987), p. 129.

8. A good reflection on these matters is Terry Cook, "Electronic Records, Paper Minds: The Revolution in Information Management and Archives in the Post-Custodial and Post-Modernist Era," *Archives and Manuscripts* 22 (November 1994): 300-328.

9. Jack Goody, *The Logic of Writing and the Organization of Society* (London: Cambridge University Press, 1986), pp. 77-78.

10. Full information about the definition of the record and the particular research project can be found at <http://www.sis.pitt.edu/~nhprc>.

11. Examples of such definitions of information include Richard Derr, "The Concept of Information in Ordinary Discourse," 21, no. 6 (1985): 489-499; Christopher John Fox, *Information and Misinformation: An Investigation of the Notions of Information, Misinformation, Informing, and Misinforming* (Westport, Conn.: Greenwood Press, 1983); Noriko Kando, "Information Concepts Reexamined," *International Forum on Information and Documentation* 19, no. 2 (1994): 20-24; Clifford Lynch, "The Transformation of Scholarly Communication and the Role of the Library in the Age of Networked Information," *Serials Librarian* 23, nos. 3-4 (1993): 5-20; Joseph Nitecki, "The Concept of Information Knowledge Continuum: Implications for Librarianship," *Journal of Library History, Philosophy and Comparative Librarianship* 20 (Fall 1985): 387-407; Erhard Oeser, "Information Superhighways for Knowledge Transfer and the Need for a Fundamental Theory of Information," *International Forum on Information and Documentation* 20, no. 1 (1995): 16-21; Norman D. Stevens, "The History of Information," *Advances in Librarianship*, ed. Wesley Simonton (New York: Academic Press, Inc., 1986), 14:1-48; Paul Young, *The Nature of Information* (New York: Praeger, 1987); and Zhang Yuexiao, "Definitions and Sciences of Information," *Information Processing & Management* 24, no. 4 (1988): 479-491.

12. This definition comes from the International Organization for Standardization, *Data Processing-Vocabulary, ISO Standards Handbook 10* published in 1982.

13. Ira Penn, Gail Pennix, Jim Coulson, *Records Management Handbook*, 2nd ed. (Brookfield, VT: Gower, 1994), p. 3.

14. Penn, Pennix, Coulson, *Records Management Handbook*, p. 5.

15. This was stated in a paper at the 1994 Society of American Archivists annual meeting about the research conducted to this point in the realm of electronic records management research.

16. These observations come from his essay, "Electronic Records, Paper Minds."

17. Langdon Winner, *The Whale and the Reactor: A Search for Limits in an Age of High Technology* (Chicago: University of Chicago Press, 1986), p. 20.

18. There is a web site with links to the majority of important ongoing and recently completed electronic records research and application projects and with full citations to the earlier research agenda. A visit to this site can be useful because there is a summary of the results of this conference, summaries of current projects, and the musings of Hedstrom and several others about the nature of research going on or that needs to be done. See <http://www.si.umich.edu/e-recs/>.

19. Full information about this project can be seen at our project homepage on the World Wide Web; visit <http://www.sis.pitt.edu/~nhprc>.

20. In addition to the projects described in this essay, the recordkeeping functional requirements have been used by the World Bank, Vermont State Archives, New South Wales (Australia) Archives, Australian Archives (this country's national archives), the International Council on Archives Committee on Electronic Records, and the Victoria (Australia) government. Links to these projects are available at the University of Pittsburgh web site.

21. Full information on the project, including a bibliography of publications about it, can be found at <http://www.slais.ubc.ca/users/duranti>.

22. By this we mean that the best means of maintaining electronic records is to build functional requirements into the systems and to have the agency responsible for the recordkeeping system maintain it. The role of the archivist/records manager becomes that of assisting in the design of systems, being conversant with the warrant requiring records systems to be maintained in certain ways, and in developing and monitoring appropriate records policies and procedures. The idea of dealing with records and recordkeeping systems as a matter of last resort simply means that the records professional will face times when a particular recordkeeping system may be threatened because the system creator is closing, a particular function is being ended, or external regulations and other factors have caused a shift in the organization's business. In most cases, such systems will be destroyed. In some cases, however, the records may have archival value. In reality, the concept of last resort has also long been relevant even to traditional archival programs that collect records; there simply are too many records and recordkeeping systems to acquire, and the creators of such systems have needed to be the ones to take first responsibility for the records. I have applied this concept even to that of the traditional regional historical society; see a position paper on this at my homepage, <http://www.sis.pitt.edu/~rjc>.

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23. See <http://unix6.nysed.gov/pubs/report> for complete information on the results of this project.

24. Full information on this project is available at <http://www.phila.gov/city/departments/erms/erg.html>.

25. Full information on this project is available at <http://www.indiana.edu/~libarche>.

26. For a description of this standard, refer to David O. Stephens and David Roberts, "From Australia: The World's First National Standard for Records Management," *Records Management Quarterly* 30 (October 1996): 3-7, 62.

27. See John McDonald, "Management of Electronic Records in an Office Systems Environment: Project Report and Direction," March 17, 1996, at <http://www.sis.pitt.edu/~nhpr/nac-mer.html>.

28. For a link to the work of this company in electronic recordkeeping standards, see <http://www.si.umich.edu/e-recs/>.

29. James Madison, *The Federalist*, no. 51 [1788].

30. Kevin P. Kearns, *Managing for Accountability: Preserving the Public Trust in Public and Nonprofit Organizations* (San Francisco: Jossey-Bass Publishers, 1996).

31. Anne Wells Branscomb, *Who Owns Information? From Privacy to Public Access* (New York: Basic Books, 1994).

32. Howard Rheingold, *The Virtual Community: Homesteading on the Electronic Frontier* (New York: Harper Perennial, 1993), p. 13.

33. Alan Lightman, *Einstein's Dreams* (New York: Warner Books, 1993), pp. 81-82.

34. Arnold Pacey, *The Culture of Technology* (Cambridge: MIT, 1983).

35. The ethical issues enumerated were political fund-raising, independent counsels, Whitewater, Whitewater pardons, missing billing records, F.B.I. files, the Travel Office, and withholding documents; "Ethical Issues Facing the White House," *New York Times*, 3 November 1996, p. 20.

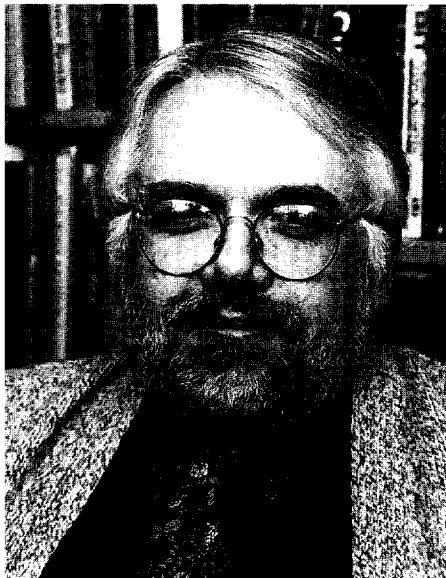
36. Richard J. Cox, "International Perspectives on the Image of Archivists and Archives: Coverage by *The New York Times*, 1992-93," *International Information & Library Review* 25 (1993): 195-231.

37. 2 June 1995, *New York Times*.

38. Richard F. Hixson, *Privacy in a Public Society: Human Rights in Conflict* (New York: Oxford University Press, 1987), p. 209.

39. 15 November 1995, *New York Times*.

40. See <http://www.gateway-va.com/pages/news/tobac/tobacco.htm> with current information on the so-called "Tobacco Papers" liti-



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Dr. Cox holds an M.A. in history from the University of Maryland and has additional training in archival administration and records management and a Ph.D. in Library Science from the University of Pittsburgh. He was named a Fellow of the Society of the American Archivists, that association's highest honor, in 1989.

gation, with ramifications for access to information found in records.

41. See Steven Naifeh and Gregory White Smith, *The Mormon Murders* (New York: New American Library, 1988).

42. See, for a variety of views, Todd Gitlin, *The Twilight of Common Dreams: Why America Is Wracked by Culture Wars* (New York: Metropolitan Books, 1995); Mary Lefkowitz, *Not Out of Africa: How Afrocentrism Became An Excuse to Teach Myth as History* (New York: Harper Collins, 1996); Edward T. Linenthal and Tom Engelhardt, eds., *History Wars: The Enola Gay and Other Battles for the American Past* (New York: Metropolitan Books, 1996); Philip Nobile, ed., *Judgment at the Smithsonian* (New York: Marlowe and Co., 1995); and Arthur M. Schlesinger, Jr., *The Disuniting of America: Reflections on a Multicultural Society* (New York: W. W. Norton and Co., 1992).

43. See, for example, Timothy W. Ryback, "Evidence of Evil," *New Yorker* 69 (November 15, 1993): 68-81; Deborah Lipstadt, *Denying the Holocaust: The Growing Assault on Truth and Memory* (New York: Free Press, 1993); James E. Young, *The Texture of Memory: Holocaust Memorials and Meaning* (New Haven: Yale University Press, 1993); Geoffrey H. Hartman, ed., *Holocaust Remembrance: The Shapes of Memory* (Cambridge, MA: Blackwell, 1994); and Ian Buruma, *The Wages of Guilt: Memories of War in Germany and Japan* (New York: Meridian, 1994).

44. Luciana Duranti, "The Odyssey of Records Managers," *Records Management Quarterly* 23 (July 1989): 5.

45. Richard Kesner, "Automated Information Management: Is There a Role for the Archivist in the Office of the Future?" *Archivaria* 19 (Winter 1984-85): 163.

46. Hal Rothman, *America's National Monuments: The Politics of Preservation* (Lawrence: University Press of Kansas, 1989), p. 80.

47. M. T. Clanchy, *From Memory to Written Record: England, 1066-1307* (Cambridge: Harvard University Press, 1979), p. 144.

48. Clanchy, *From Memory to Written Record*, p. 294.

49. James R. Beniger, *The Control Revolution: Technological and Economic Origins of the Information Society* (Cambridge: Harvard University Press, 1986), pp. 166-167.

50. Thomas K. Landauer, *The Trouble with Computers: Usefulness, Usability, and Productivity* (Cambridge: MIT Press, 1995), p. 152.

51. Mark Slouka, *War of the Worlds: Cyberspace and the High-Tech Assault on Reality* (New York: Basic Books, 1995), p. 27.

CONFERENCE CALENDAR

May 1998: Philadelphia, Pennsylvania. The Liberty Bell Chapter of ARMA International will present its Annual Spring Educational Seminar. For more detailed information contact Julie Gable at 215-233-4105.