Information Technology, Records, and State Archives

ROY C. TURNBAUGH

Abstract: This article discusses the impact of information technology on state archival programs. It argues that the context in which these programs function is critical to understanding and directing them, maintains that the World Wide Web confers enormous benefit on state archives with little expense, finds the direction of current electronic records theory unsatisfactory, and proposes using information technology to succeed and even prosper in an era of anti-government sentiment.

About the author: *Roy C. Turnbaugh has been State Archivist of Oregon since 1985. He holds a Ph.D. in History from the University of Illinois. The author would like to thank Bruce Dearstyne and Dan Cantrall for their comments on previous drafts of this article.*

Fog everywhere. Fog up the river, where it flows among green aits and meadows; fog down the river, where it rolls defiled among the tiers of shipping, and the waterside pollutions of a great (and dirty) city. Fog on the Essex marshes, fog on the Kentish heights. Fog creeping into the cabooses of collier-brigs; fog lying out on the yards, and hovering in the rigging of great ships; fog drooping on the gunwales of barges and small boats.

CHARLES DICKENS, *Bleak House*

DIRECTING A STATE ARCHIVES at the end of the twentieth century is like trying to walk across nineteenth-century London in the fog. Odd shapes loom up suddenly, voices are muffled and often unintelligible, other pedestrians bump into you and disappear. Embarking on such a journey demands a level of self-confidence that borders on the foolhardy. Technology is like a stray dog that has joined the archivist in the middle of this journey. Depending on how it's handled, the dog may either inflict a painful bite or, suddenly docile, lead one safely through the city.

Context

The paradox that surrounds state archives and information technology is this: technology offers state archives the means to perform traditional tasks well, tasks such as appraisal, access and description, and records scheduling; but these traditional tasks seem to lose significance before a new set of tasks that are technological in origin, self-referential, and hard to define. State archives are creations of government. They are established by statute to do certain things. The importance of what they do is given a rough prioritization regularly, every time the state legislature passes a state's budget. The fortunes of state archival programs are affected by a host of factors, many of which are external to the archives and outside its control. These factors may include partisan politics, the state's fiscal condition, the level of interest in the state archives—the list is a long and varied one. The point is that there are few fixed stars by which a state archives can set its course. Programs with slender resources may find it productive to set priorities based on a reasonable expectation of success in performing tasks which contribute to the mission described by statute. These statutory missions are reasonably durable, they are written in language which people outside the archives and records professions can understand, and they provide quite a bit of latitude when it comes to deciding how something will be done. Since the availability of resources is so volatile in state government and technological change is difficult to forecast, these tasks stand their best chance of successful completion when the time frame is kept short, in the neighborhood of one to three years.

Records as well as missions are defined in the statutes of most states. These definitions tend to be inclusive, and draw the boundaries of the raw material state archival programs must refine. In other words, statutes tell everyone what a state archives should do, and then go on to define what they do it to, namely records. Statutes also set the conditions of access to records, and state archives are obligated like other agencies to follow their provisions and make some records available to the public while restricting other records. All of these areas—mission, definitions, access, and disclosure—are further clarified, proceduralized, and implemented by a filigree of regulations, policies, and formal and informal procedures. This operational context for state archives is open to inspection and challenge by anyone, and it is periodically assessed by the state legislature, which may change the context and must set the level of resources which will be available to the archives. When statutes and regulations become outdated and need to be changed, the

process of changing them is an open one. The primary responsibility for making sure that this context benefits the public and is workable for the state archives rests with the state archives. If the context needs to be changed, the state archives should initiate the change.[1]

Statutes can be changed, but governments are complex, change-resistant organisms, and the actions of state archives and records programs, admittedly small parts of those governments, need to be easily understood and easily carried out if they are to stand a reasonable chance of success. State government puts a strong emphasis on practicality and economy, especially on the latter. These points should be such truisms that they don't even need to be mentioned, but people who are unfamiliar with the milieu of state government often overlook them.

Technology

The issues information technology poses for state archives surface in this mix of laws, tradition, and power relationships. How should this technology be used by archives and records programs? Should these programs try to manage the products of technology as records? One of the tensions of modern state archives management is the pull which exists between using technologies to carry out archival and records management missions and adjusting or diverting missions because the technologies enable or even seem to demand such changes. This tension is compounded by the relentless external pressures on state governments to "modernize," pressures which typically rely on the most superficial indicators of modernization, such as the installation of hardware.

State archives have been part of the national movement toward the automation of government, using word and data processing technologies. This has evolved since the introduction of mainframe computing and office automation in state government, and it has accelerated with the advent of desktop computers. Generalized automation of work, such as using word processing instead of typewriting for correspondence, or using invoicing software instead of preparing bills manually, has also been accompanied by attempts to automate tasks which are unique to archivists and records managers. Many archivists enjoyed the challenge of working with systems analysts and programmers to create institutional information systems or of adapting off-the-shelf software, such as desktop database programs, to local needs. In addition, the 1970s and 1980s saw the appearance of efforts to exchange information in digital form, most notably with SPINDEX and MARC AMC. The usefulness of these efforts has been most conspicuously limited by the need to channel access through bibliographic utilities. Even more significant barriers, however, are created by substantial overheads in training, the intensity of labor needed to prepare descriptive information, and the need to adjust program objectives to fit system requirements. In short,

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[1]For example, at the beginning of Chapter 192, Oregon Revised Statutes, 1995 (the Public Records Law), under the heading Public Records Policy, the following may be found: "(2) The purpose of ORS 192.005 to 192.170 and 357.805 to 357.895 is to provide direction for the retention or destruction of public records in Oregon in order to assure the retention of records essential to meet the needs of the Legislative Assembly, the state, its political subdivisions and its citizens, in so far as the records affect the administration of government, legal rights and responsibilities, and the accumulation of information of value for research purposes of all kinds, and in order to assure the prompt destruction of records without continuing value."

Additional context may be found in the definition of record which is found in statute. Oregon's is typical and reads: " 'Public record' means a document, book, paper, photograph, file, sound recording, machine readable electronic record or other material, such as court files, mortgage and deed records, regardless of physical form or characteristics, made, received, filed or recorded in pursuance of law or in connection with the transaction of public business, whether or not confidential or restricted in use."

the solutions that technology offered state archives had mixed value. The more generic the technology, such as standard word processing, the more obvious the benefit. Specialized solutions usually carried substantial price tags, many of them hidden, and offered long-deferred, distant payoffs.

In particular, state archives had to continue to deal with the barriers to use created by their unique, voluminous holdings and by their geographic placement in state capitals (often not the state's major centers of population or education). Unlike college and university archives, state archives enjoy no resident community of users, so many state programs have necessarily focused on users such as genealogists, attorneys, and public employees.

This internal evolution of the impact of information technology on work, which was in general, very positively received by state archives, had as its corollary the impact of information technology on government records. As the pace and scope of the automation of work in state government increased, state archives became aware that increasing amounts of records were the products of digital technology. In particular, the interval from 1985, when personal computers started to appear in government offices, to the present, when powerful personal computers are standard issue in most state agencies, was one of enormous technological change. The biggest users of this technology tended to be the enormous agencies that were most resistant to change, in great part because their work—licensing drivers, processing unemployment claims, issuing benefit checks—threatened to engulf them. As state archives gingerly entered this arena, they were faced with the problem of finding ways to deal with these records in ways that made sense to other agencies and, in addition, didn't disrupt routine business operations.

Dealing with the records that were produced by this equipment soon became a high priority for state archives. The National Historical Publications and Records Commission (NHPRC) began to commit significant amounts of its limited funds to projects in the area of electronic records. For state archives, the most important of these projects was the series of institutes sponsored by the National Association of Government Archives and Records Administrators and the University of Pittsburgh, funded by the Council on Library Resources and NHPRC, held from 1989 to 1996, and described elsewhere in this issue.

Much of the thinking on electronic records has resulted in the appearance of a new vocabulary (more precisely, familiar words have been given new meanings) and a rediscovery of the importance of records management. The first, and one of the most important shifts in nomenclature occurred sometime in the early 1980s, when ''machine-readable'' records were rechristened ''electronic'' records. ''Machine-readable,'' as a descriptive term, had the small virtue of describing things. The juxtaposed words ''machine'' and ''readable'' could provide someone with no technical background in records issues a crude notion of what kind of records were described: that is, records which needed to be read by machines, not people. This person might even be able to deduce what kinds of machines could produce this type of record, such as computers, tape recorders, and so on. The term ''electronic records,'' however, was much less descriptive. Since language both describes reality and shapes it, this change was a hint that the discussion of these records could quickly become abstract. Once this set of issues had been put in soft focus, a new field of specialization—electronic records theory—quickly emerged. This had some undesirable consequences for state archives, since they must function in an environment that is intensely practical and tangible. In fact, much of the work performed by state archives and records management staffs consists of explaining records-related programs and issues in down-to-earth terms to people who have a number of other things to do.

Linda Henry has pointed out that the writers who have dominated the discussion of electronic records, David Bearman and others, have, in fact, pressed for a new definition of record, based on "evidence of business transactions."[2] Although this phrase mimics the definitional language found in many states ("the transaction of public business"), it constricts the meaning of the original. Further distinction has been drawn between "recordkeeping" systems and "information" systems. These nibbles at redefining records encourage the development of practices which stray from the statutory context of state archival programs. This can be risky in state government, where programs derive their authority from the law and use this authority as a constant reference point. If redefinition of the record is necessary to accommodate the products of information technology, then such redefinition should be initiated by the state archives and made as visible as possible. It should also be incorporated into the statutory charter for the state archives. This issue illustrates the disjunction between an expanding body of theory and the context within which state archives operate.

In summary, the outlook for the application of information technology into the 1990s was a modestly positive one. State archives, like other government agencies, were using computers to automate work. State archives could use the MARC AMC format to exchange information about holdings, but remote access to MARC records was contingent upon membership in a bibliographic utility such as RLIN or OCLC. Participation in these information systems was not without cost to state archival programs—use of them tended to require brokering, preparation of MARC records was labor-intensive, and state archives were still faced with the separation from their users caused by distance. Despite these shortcomings, a solid case could be made for the fact that information exchange was possible and that remote access, although brokered rather than self-service, was occurring. Less encouragingly, a shared and growing awareness of the pervasiveness of electronic records was being met with a methodology that was abstract and jargon-laden. The organized expression of this methodology is the document Functional Requirements for Evidence in Recordkeeping, which was issued by the School of Information Sciences of the University of Pittsburgh and is the result of a three-year project funded by the NHPRC.[3] Two things signalled that management of the electronic record in the states would be troubled: the gap between this evolving methodology and actual practice at state archives, and the fact that this methodology was, in effect, developed and presented to the state archives community.

The World Wide Web

The advent of the World Wide Web in 1993–1994 really revolutionized the operational context for state archives. Most obviously, the Web afforded state archives a means of communicating directly with scattered users in a way that took advantage of an intuitive, point-and-click interface. Just as important, although slightly less obvious, the Web's lingua franca was HTML, and as the Web took off, HTML filters and translators became standard features of word processing software. Again, just as important, an archives could establish a website on any platform, even on a desktop computer. For example, the first Web-server at the Oregon State Archives ran in the background on an Apple Macintosh

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[2]Linda J. Henry, "Schellenberg in Cyberspace," Society of American Archivists annual meeting, 28 August 1997.
[3]See http://www.sis.pitt.edu/~ nhprc/evidence.html for this document.

IICI, using server shareware downloaded over the Internet and freeware to translate word processed text to HTML.

Since state archives and records management programs typically are state agencies, they have traditionally had to compete with other state agencies for information technology resources. This frequently meant scrambling for crumbs from the table of the large players, such as motor vehicle services, statewide accounting systems, and human resource client services. In this setting, state archival programs had to channel requests for information technology through centralized, bureaucratic staffs and receive priorities which, rarely high to begin with, could plummet any time major clients demanded service. When the World Wide Web appeared in late 1993 and began to take off, the grip of state government information technology specialists on small agencies loosened. The combination of easily available HTML software, inexpensive Web-server software, and relatively low-end hardware requirements meant that the dependency on these specialists was substantially eased.

The effectiveness of the World Wide Web as a means of accomplishing traditionally difficult archival tasks is almost impossible to overstate. First, the Web relied on simple, widely available technology that state archives could afford to buy. State archives no longer had to find and pay an entity to host and broker their information. Decentralization, which had been in the wings since the appearance of the desktop computer, reversed the existing order. It pushed the power necessary to process and present information into the hands of users. Second, the basic technical skills that the Web demanded could be acquired on the fly by archivists and records managers. State archives no longer had to find information technology professionals to perform their technical work. Third, the Web simply stepped over any parallel issues of standardization of information or of format by enabling state archives to move electronic text directly to HTML and thus to World Wide Web publication. This meant that the kind of formatting required by MARC AMC no longer needed to be performed before information about records could be provided to users. In a sense, it offered state archives a means of leap-frogging technological change by making pre-electronic finding aids suddenly available to a global user base without significantly more work than putting them through a word processor. The intervening difficulty (and expense) of formatting to a standard or subscribing to a bibliographic utility such as RLIN or OCLC had been eliminated.

The results of having suitable technology to overcome chronic problems for state archives and records programs were profound. A presence on the Web was a predictor of an increase in use. For example, at the Oregon State Archives, a measurable increase in use of holdings accompanied the establishment of the archives website. This use was in addition to the numbers of hits counted by the website. A close analysis of website logs does reveal that user behavior is driven by hunger for information. That is, those elements of the Oregon State Archives website that carry heavy loads of information, such as legislative hearing minutes, county records inventories, and state agency administrative rules, get the most use. This discovery was a slight surprise, because the Web's ability to handle image as well as text created an assumption that image-heavy sections of a website would draw disproportionate use. However, on a website that blends visual and graphic virtual exhibit galleries with large amounts of information-rich resources, use was concentrated on the latter. Any fresh additions to the informational resources on the website were marked by bumps in use. This gain in use is very important for state archival programs, because it is evidence that can be used in the scrimmage for resources.

What has the impact of the World Wide Web been on conventional reference services? What impact can reasonably be anticipated? Given the fact that an increase in staff rarely keeps pace with an increase in workload, how has an increase in the use of holdings affected programming? Fortunately, the technology carries the seeds of a solution to the problems it creates. Previous experience with MARC AMC bibliographic databases resulted in the need for state archives staff to broker the information these databases contained to users, rather than being able to deploy a genuine self-service model. In contrast, the more obvious and intuitive interface provided by HTML, coupled with full-text searching, enable an archives to move toward increasing self-service access to holdings and frees professional staff from this set of tasks. One of the happy coincidences, of course, was the immediate acceptance of the Web by the state archives user community. In many instances, users proved to be more technologically adept than archives professionals. In particular, genealogists had been harnessing personal computers to manage family data and had used e-mail and on-line services to gather and exchange information. Discovery and use of the Web was a natural progression for genealogists, many of whom developed personal homepages or family and association websites. As Robert H. Reid points out, "the Internet empowers everyone to be an operator."[4] In other words, use of the Web allows customers to service themselves.

In turn, development of user self-service for Web-based access gives professional staff more time to respond to complex inquiries. Previously, much staff effort at the Oregon State Archives went into delivering negative replies to users, e.g., "No, the archives does not have the information you need. Thank you for your inquiry." This resulted from the fact that many users simply made blind inquiries, with no idea what records were available. Use of the Web as a buffer between archives staff and users makes many of these questions self-answering. Additionally, the deployment of an access interface to holdings and other resources that does not have to be hierarchical and rule-bound is a more effective model of development. Cost is lower and control is local, which makes productive experimentation far easier and enables state programs to adjust access to local conditions.

If previous use of the MARC AMC format was pulling state archives more closely toward a library access model (and several state archives are parts of state libraries), hypertext offered an alternative to this. Use of MARC depended on mastering the format, both to fill it with descriptive information and then to extract descriptive information from it. MARC functioned best when it overlay library classification schemes. Since access within state archives was, at least in theory, traditionally provenance-driven, the marriage of MARC AMC and public records was always an uneasy one, made more so by the fact that state archives users could not be expected to have any familiarity with the constraints of MARC.[5]

State archives find themselves faced with a continuum of descriptive tasks. They must provide access to the oldest records in their custody, some of which predate statehood or even creation of the United States, just as they must provide access to the most contemporary records they hold, *and* they must provide access to everything in between. One of the challenges state archives must respond to is finding effective ways to describe

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[4]Robert H. Reid, *Architects of the Web* (New York: John Wiley & Sons, Inc., 1997): xxviii.

[5]A good illustration of the entrenchment of the cataloging and classifying mindset in the library community is may be found in *The Bulletin of the American Society for Information Science* 24 (October/November 1997). This issue, titled "Organizing Internet Resources: Metadata and the Web," reveals how for librarians the Web represents anarchy rather than freedom.

records that have been changing for centuries. These records are often fragmented and piecemeal, there may be no good record of their accession by the state archives, and they may come from several levels of government. Any common denominators may be set by the statutes which define public records and establish the agencies which create them.

The fact that the record series served as the linchpin of the whole descriptive enterprise at most state archives had no particular benefit. Marrying the records series and the MARC AMC format made the shortcomings of series-level description even more obvious. If technology should have enabled users to see records more clearly, in the context of their creation and in their relationships with other records, this wasn't what was happening. One could argue that such clarity was better realized in a pre-electronic era, when the constricting influence of record-by-record display via telnet on a desktop monitor hadn't yet created a kind of hyperfocus on individual record series. Efforts in the mid-1980s to use the MARC AMC format to exchange information about appraisal of state agency records, in the hopes that appraisal could be systematized, were inconclusive. Even use of standardized descriptors to enhance subject access to these records proved to be little more than a veneer that made it even more important to have the information brokered by a professional who would at least have a cursory familiarity with the nomenclature of access.

It should be emphasized that one of the simplest and most powerful benefits of the World Wide Web for state archives is the way it has replaced hierarchical, centralized standards and systems for ordering and exchanging information with looser, more associative pathways relying on hyperlinks. Not surprisingly, this is also the benefit that one rarely hears praised. However, if one studies the Web from a distance, one can see that the common denominator of its access systems is simply raw processing power, which gives priority to recall over precision. Faster, more powerful machines, better software, and distributed processing are the guiding principles of the World Wide Web. Since the Web is the creation of programmers rather than librarians and other information specialists, rulebooks haven't been much of a consideration. Given the jumbled nature of much of the information presented on the Web, it is hard to imagine any other solution to access that would work. The net result of this shift from rule-based access to power-driven access constitutes an enormous stroke of good luck for state archives, which measure their holdings in tens of thousands of cubic feet, which have sizable backlogs of undescribed records, and which now have a low-cost alternative to using a standard format to carry description and provide access.

Integration

If the Web is the thin end of an evolving technology that will unite users with archives in cheap, intuitive ways, it can also point to ways of integrating the various elements of state archives programs. Traditionally, state programs that bundle archives and records management into the same agency have found it difficult to eliminate disconnects between the two halves of the program. State programs that separate the archives and records management programs have an even harder time. That is, the assumption has been that records managers work with agencies to authorize records disposition and improve agency records management practices, and then deliver some of their work, in the form of retention schedules, to the archives side of the program. The archives program then selects records to accession (appraises) from these schedules. Once the records selected from the schedules have been accessioned, they are arranged and described. The weak points in this traditional approach are obvious.

The two most serious problems are the difficulty of making good appraisal decisions from series-level descriptions of records, which in many states have been prepared by agencies rather than by records managers, and the duplication of work that occurs when records are described once by records managers and again by archivists. Little hope of change existed as long as the available technology reinforced a methodology which consisted of completing and collecting forms. Series description, whether for records management or archives, gave weight to the contents of the record (name, address, telephone number) rather than its purpose. The tendency, at least on the archives side of the house, was to push the limits of description of contents, in the assumption that archives users would be gratified, and only perfunctorily describe the purpose or function of the record series. Conspicuously absent from all this work was any clear depiction of the connections between records which were created by an office to support a program.

Ideally, records management retention schedules would contain the information necessary to authorize appropriate retention and dispositions, to make preliminary appraisal decisions, and to provide users, whether of the archives or at the agency, with an accurate picture of the records created and their relative significance to the agency's program. In short, this information would accompany the records, and could serve as a finding aid as well as a retention schedule. The confluence of factors that characterizes the Web increases the incentive for productive experimentation by state archives in this area. Records management and archival descriptive information can be organized and presented in any way that makes sense and is useful.

The Oregon State Archives has shifted emphasis from description of the record series to description of records-creating agencies and programs. The expectations underlying this change were as follows:

- retention schedules incorporating these descriptions would be more intelligible to agencies and consequently more useful in managing and disposing of records;
- the descriptions would provide an idea of the relative significance of records within an agency program and thus be a useful appraisal tool;
- the results would make keeping track of changes more straightforward, since change typically happens to programs and the records reflect this;
- descriptions of records-creating context could serve as a basic finding aid or prototype GILS systems; and
- the results could eliminate the redescription (and its cost) that causes bottlenecks at many state archives.

An example of this is the Oregon Division of State Lands retention schedule that is reproduced in the accompanying figures. Figure 1 shows the contents of the State Lands schedules; Figure 2 shows the contents of the South Slough National Estuarine Research Reserve section of the schedule, both program description, records description, and record series list with accompanying retentions; Figure 3 is a hypertext link to the National Oceanic and Atmospheric Administration's website; Figure 4 is a hypertext link to the applicable state agency general retention schedules; Figure 5 is the Administrative Overview that is part of the Division of State Lands retention schedule; Figure 6 is a hypertext link to the Division's administrative rules; Figure 7 is a hypertext link to the Oregon Revised Statutes which establish the Removal and Fill program; and Figures 8 and 9 are hypertext links to the governor's and secretary of state's homepages.

Web-based technology makes this change possible. It provides access to descriptions of state and local records, gives institutions the choice of providing access as text or as

Figure 2
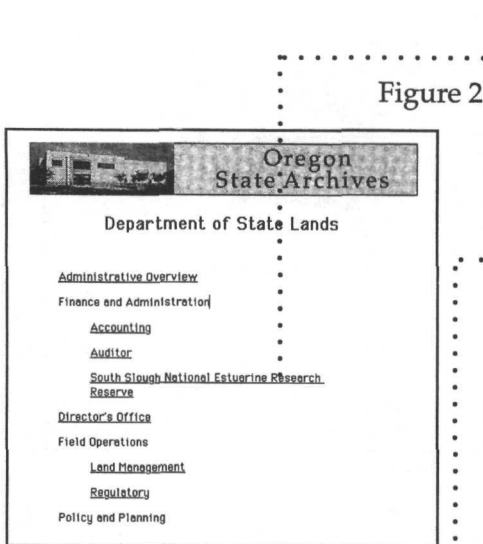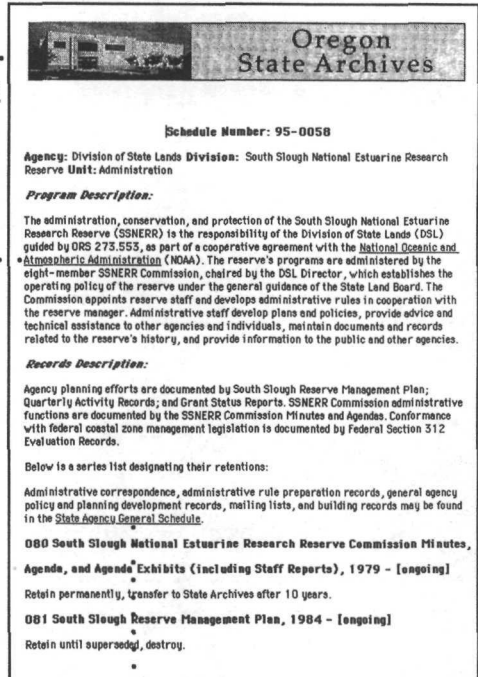

Figure 1

Figure 3

Figure 4

data, and offers hypertext linking to those who choose to use it. Public records which are the products of statutes and rules can be linked to those authorizing and enabling documents, and vice-versa. This most recent wave of technology gives state archives the option of disengaging from overdescription of the record series in situations where such emphasis
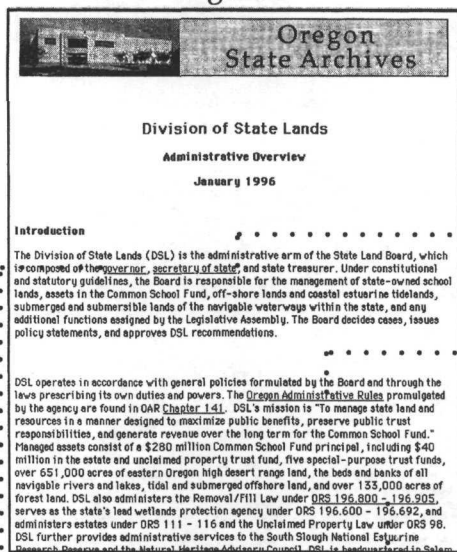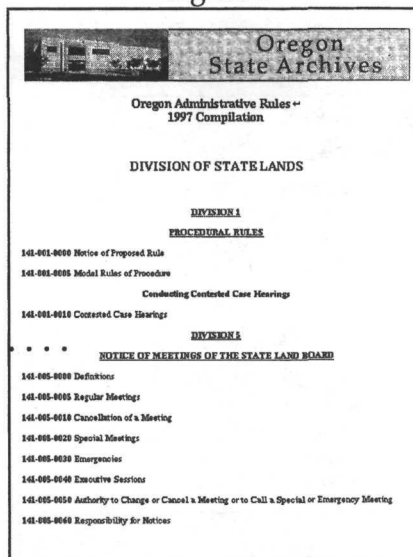
Figure 5

Oregon State Archives

Division of State Lands

Administrative Overview

January 1996

Introduction

The Division of State Lands (DSL) is the administrative arm of the State Land Board, which is composed of the governor, secretary of state, and state treasurer. Under constitutional and statutory guidelines, the Board is responsible for the management of state-owned school lands, assets in the Common School Fund, off-shore lands and coastal estuarine tidelands, submerged and submersible lands of the navigable waterways within the state, and any additional functions assigned by the Legislative Assembly. The Board decides cases, issues policy statements, and approves DSL recommendations.

DSL operates in accordance with general policies formulated by the Board and through the laws prescribing its own duties and powers. The Oregon Administrative Rules promulgated by the agency are found in OAR Chapter 141. DSL's mission is "To manage state land and resources in a manner designed to maximize public benefits, preserve public trust responsibilities, and generate revenue over the long term for the Common School Fund." Managed assets consist of a $280 million Common School Fund principal, including $40 million in the estate and unclaimed property trust fund, five special-purpose trust funds, over 651,000 acres of eastern Oregon high desert range land, the beds and banks of all navigable rivers and lakes, tidal and submerged offshore land, and over 133,000 acres of forest land. DSL also administers the Removal/Fill Law under ORS 196.800 -, 196.905, serves as the state's lead wetlands protection agency under ORS 196.600 - 196.692, and administers estates under ORS 111 - 116 and the Unclaimed Property Law under ORS 98. DSL further provides administrative services to the South Slough National Estuarine Research Reserve and the Natural Heritage Advisory Council. DSL is headquartered in Salem.

Figure 6

Oregon State Archives

Oregon Administrative Rules
1997 Compilation

DIVISION OF STATE LANDS

DIVISION 1
PROCEDURAL RULES

141-001-0000 Notice of Proposed Rule

141-001-0005 Model Rules of Procedure

Conducting Contested Case Hearings

141-001-0010 Contested Case Hearings

DIVISION 5
NOTICE OF MEETINGS OF THE STATE LAND BOARD

141-005-0000 Definitions

141-005-0005 Regular Meetings

141-005-0010 Cancellation of a Meeting

141-005-0020 Special Meetings

141-005-0030 Emergencies

141-005-0040 Executive Sessions

141-005-0050 Authority to Change or Cancel a Meeting or to Call a Special or Emergency Meeting

141-005-0060 Responsibility for Notices

OREGON REVISED STATUTES

1995 EDITION

CHAPTER 196

Wetlands and Rivers; Removal and Fill; Ocean Resource Planning

196.800 Definitions for ORS 196.600 to 196.905. As used in ORS

196.600 to 196.905, unless the context requires otherwise:

(1) "Channel relocation" means a change in location of a channel in

which a new channel is dug and the flow is diverted from the old

channel into the new channel if more than 50 cubic yards of material

Figure 7

Oregon Governor John Kitzhaber

Personal Message

Press Releases | Speeches | Public Schedule
Biography | Photo Gallery | Scenic Oregon (125k) | Oregon OnLine

Figure 8

Oregon Secretary of State

- Archives Division
- Audits Division
- Corporation Division
- Elections Division
- Executive Office

- What's New
- About the Office of the Secretary of State
- Oregon Blue Book On-Line Edition
- Employment Opportunities
- Site Statistics

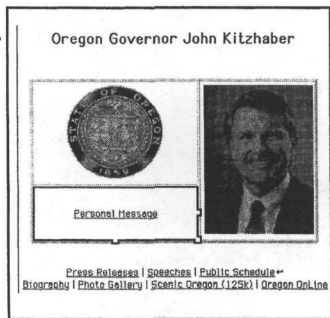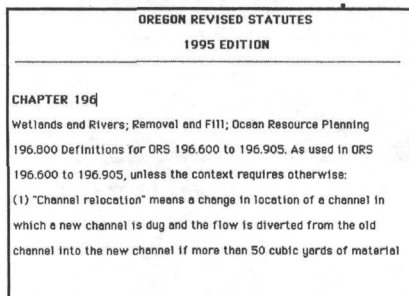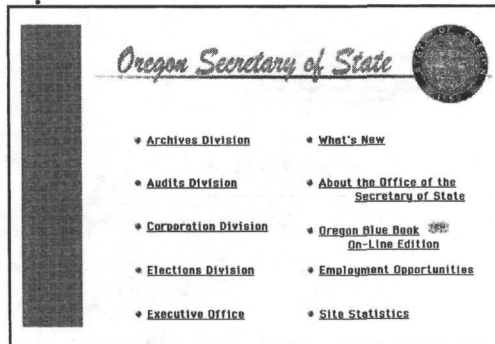## Figure 9

would be unproductive. Modern state agency records are more intelligible when described in the context of their creation and use. As government tirelessly reinvents itself year after year, agencies reorganize and rename themselves constantly, but the core programs they are charged with change more slowly.

The point of this illustration is not to promote this method of describing state agency records over other methods, but rather to sketch some of the possibilities that are available and in particular to illustrate how hypertext can pull together disparate but related and relevant sources. HTML is such a low common denominator that it requires very little outlay of resources to move information directly from creator to user. (If HTML were difficult to master, there wouldn't be so many personal home pages on the World Wide Web.)

Technology offers state archivists and records managers the opportunity to knit together involved parties and significant resources in what really can become a web of information. Agencies can be connected directly to users, descriptions of records and programs (and agencies) can be built and shared by agencies, records managers, archivists, and users. Local conditions can find their best solutions, rather than settle for the acceptances that use of more elaborate, standard formats entail. One of the most promising developments is the ease with which similar information can be presented without having to resort to a standard format.

For example, the following set of figures shows the ways three state archives use the Web to present information about similar records. Figure 10 shows the results of a database search which has found naturalization records at the Oregon State Archives; Figure 11 shows a narrative overview of naturalization records at the Oregon State Archives; Figure 12 shows an image of a Declaration of Intention with accompanying transcription; and Figure 13 shows a finding aid for Declarations of Intention. Figure 14 shows the introduction to a Web-based searchable catalog at the Utah State Archives, Figure 15 shows the result of a search (Naturalization Record Books for Beaver County, Utah); Figure 16 shows the Nevada State Archives HTML tree to holdings; and Figure 17 shows a narrative overview of naturalization records at the Nevada State Archives. Additionally, any website can set up links to similar records and information available at other repositories. The configuration of the information on each site is of less immediate concern than the connection. Including pre-addressed e-mail forms on these sites enables the repositories to receive as well as publish information, and opens the possibility of forging ongoing communication with users so that services may be need-driven and effective.

Technology and Tradition

As state archival programs continue to deploy information technology, the next step is to provide users with those holdings they require electronically, either as digitized images or as a directly accessible electronic files. There are no significant obstacles to providing digital images of records in a nonproprietary, open systems environment. This is a logical extension of the World Wide Web and the access it provides to holdings. In fact, the price of technology that will enable this continues to drop as performance continues to rise. The movement of acceptable-resolution digital images on demand will further focus professional employees on their roles as access providers. Given the large volume of holdings of most state archives, mass digitization is simply not practical, let alone desirable. However, selective digitization based on user request is a straightforward, relatively uncomplicated task that need not be performed by professionals. Once again, the premium will be on creating access tools that are both useful (require little if any brokering by staff, are reasonably precise, and are cost-effective to operate and maintain) and require the least amount of work to produce. The whole area of digitized public records on demand should be able to pay for itself, in terms of the expense of digitization and movement of image
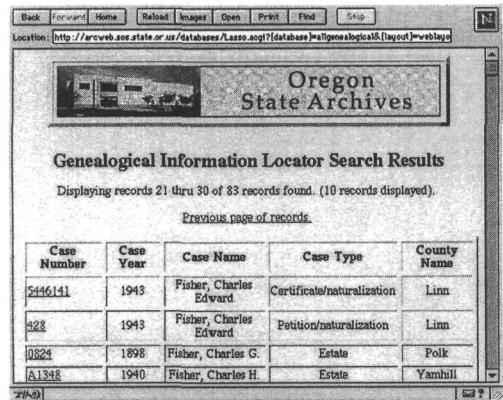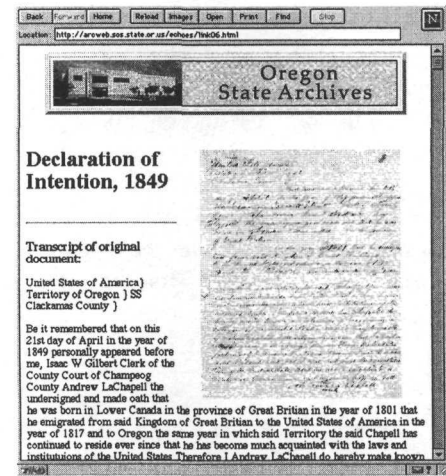
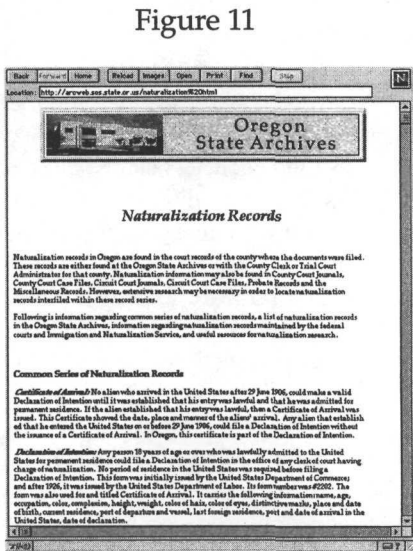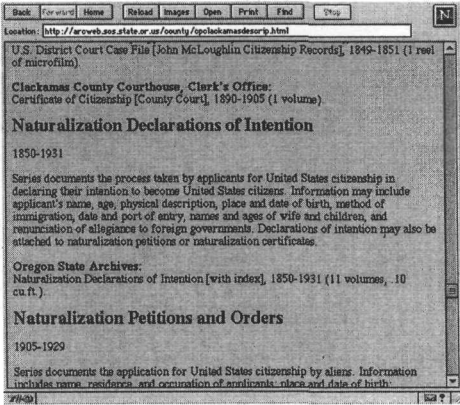Figure 10

Figure 11

Figure 12

Figure 13

to users, but it cannot reasonably be expected to pay for creation of the access paths. Moreover, what works for one state archives may not work very well for the next, both technically and fiscally.
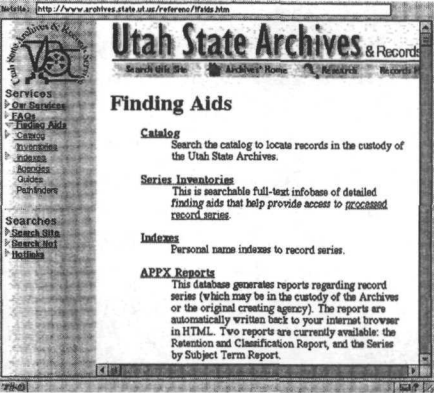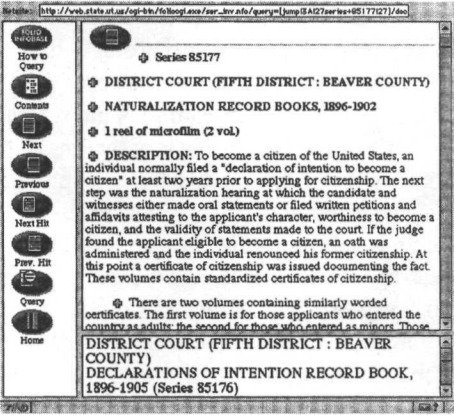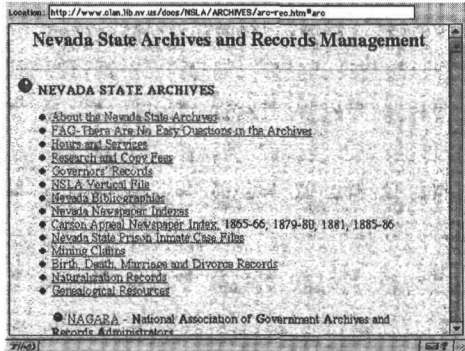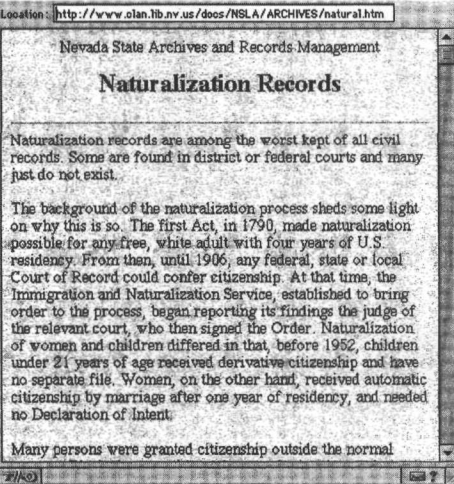
Figure 14

Figure 15

Figure 16

Figure 17

Providing direct access to electronic files is somewhat more complex at present. Access to text does require that the text be made electronic if it is not already (through optical character recognition), and that some workable interface, whether search engine, database search form, or HTML tree, be placed over it. Access to other electronic data,

whether created in-house or by an agency, similarly requires that the data be in a standard format and that a common graphic interface to it sits on top of it. For example, it is a pretty straightforward task for the Oregon State Archives to provide access to full electronic text of legislative committee minutes, because the Legislative Assembly creates its minutes as word processing documents. Taking these word processing documents and turning them into large, searchable files is inexpensive and routine. The decision to provide Web-based access to this electronic text is also a routine one. These minutes have traditionally been heavily used and assembling the set of resources relevant to any one bill—minutes, exhibits, sound recording—has been a long-standing drain on State Archives resources. Publication on the Web of these minutes, accompanied by staff-prepared legislative bill histories, streamlines the reference process for this set of records.

An analysis of the factors that make this a successful venture provides state archives with some reference points for moving successfully through the world of electronic records. The technology involved is accessible and inexpensive, and within the scope of many state archival programs. The records are significant. No great change in conventional archives-agency roles needs to occur to accomplish this. If word processing has become the draft horse of the information revolution, then it is a natural progression for state archival programs to harness it to acquire records and make them accessible. Certainly those records which contain evidence of policy formation and implementation—governor's correspondence and directions to agencies, agency directors' correspondence, minutes of governing bodies—now have a period of life when they exist as word processing documents. Identification and acquisition of these policy-related electronic files fits easily within traditional state archives and records management programs. Once acquired, state archival programs can provide inexpensive and remote access to these records, and can also eliminate the traditional lag that occurs between creation of a record and transfer to an archives. The point is that opportunities for providing direct access to electronic files are present from state to state, and the results are what is important.

The generalized set of conditions that comprises the environments within which state archives must survive places a premium on getting things done. At first blush, it may seem perverse to applaud the Web for the freedom from standards it offers, but state archival programs have already spent great amounts of time and significant amounts of money trying to agree on and implement standards for information exchange and for description of holdings. At best, the products that have appeared have been difficult to use (they have required a high level of expertise) and expensive (they have required large amounts of staff time).

If using technology to provide access to holdings can deliver state archives from the set of conditions which has traditionally limited their effectiveness, the other side of the technological coin, the sprawling territory generally covered by the term electronic records, carries serious risks for state archives. Because systems development has an impact on everything that happens subsequently, some current thinking maintains that archivists and records managers need to be involved when systems are designed, to insure that record-keeping needs will be met. State archives and records management staffs are naturally concerned about losing valuable information because workable methodologies haven't been developed to manage electronic records, just as they are troubled by the thought that their professional identities may become obsolete.

Ever since its appearance, records management literature has consistently stressed the importance of persuading top management of the importance of a records management program and of the importance for the records manager to be a part of any records system

development. Unfortunately, this has rarely happened, and there is no basis for expecting that it will happen widely in the area of electronic records. If archivists and records managers want to acquire electronic records, they are going to have to deal with the records as provided. Fortunately, most nonlegacy data is stored in standardized database, image, word processing, and spreadsheet formats which are easily translated and made accessible. Gathering data from mainframe systems requires more conversion expertise and may need to be outsourced. Information about electronic records should be collected as part of the appraisal, description, and accession processes.

However, the fast track to extinction is for state archives to focus on establishing an electronic (or in fact, any) records program which provides agency services at the expense of public services. No matter how high the quality of service provided to government, other parts of state government can discover little self-interest in enabling archives and records management programs to thrive. In the competitive, even Darwinian, fiscal habitat of state government, agencies must compete for shares of what has become a shrinking public purse. Even conventional, paper-based records management programs are subject to the struggle for funding. When the action shifts to the electronic records arena, agencies may believe that they have even less reason to pay more than lip service to these programs. Complicated, expensive "front-end" electronic records management solutions promoted by state archival agencies will be prime candidates for the budget ax. Computers have been storing records for a long time, at least since the 1960s in most states, and the agencies which create and use these records have, at least in a broad sense, managed to avoid any profound consequences for failing to manage their records. The legendary information systems catastrophes that have occurred from state to state have been associated with creating and implementing systems rather than managing the records once these systems have been established.

When agencies must choose between supporting their own programs or endorsing funding for other programs at a cost to their own programs, the calculus becomes both basic and predictable. Any efforts state archives make to manage electronic records need to calculate the likelihood of return in the public services area. Legislators simply pay far more attention to testimony from the public than they do to testimony from government. State archival programs need to embrace a public which is alienated from government and to use this alienation as a basis for acquiring the resources to identify, preserve, and make accessible records of permanent value.

State archivists and records managers find themselves pulled in so many directions in part by the way they view information technology and its impact. The fog that makes progress so difficult settles on programs from several sources at once. There is the fog of conflicting demands to expand services and to cut costs. There is the fog caused by holding quantities of inaccessible records while trying to determine, sometimes for decades, how to deal with them. Not least is the fog caused when the warm breath of hypothesis touches the cold ground of government.

This means that state archival programs need to work hard to stay free from the constricting tautologies that theorists of the electronic record have constructed for them. Possessed of slender resources in an era when the public which pays for government perceives it in terms which are generally negative, state archival programs must concentrate their efforts where they can be expected to have the greatest results. The multiplicity of issues state archives absolutely must deal with has undeniably been increased by the injection of technological concerns. But state archives are replete with paper records that are inaccessible. This is a serious problem, especially when the same technologies that

can be so wounding to programs offer them solutions. Instead, when they select goals which are essentially technology-driven, rather than select technologies to accomplish long-standing goals, state programs set the stage for failures which diminish the successes they may experience.

How should state archival and records management programs contend with technology and its impact? First, they need to keep a very firm grip on their mission. Second, and beneath mission, state archival programs need to be keenly aware of costs, since state archives management is at bottom a study in costs, and technology has acted on costs in a variety of ways. There are all kinds of costs that affect a state archives. There is the cost of providing services but less obviously, there is also the cost of not providing them. There is a substantial cost from the attrition caused by confusion about what state archives really do. There is a cost from neglecting tasks that are commonly perceived to belong to state archives. Finally, and above mission, state archives need to have a clear understanding of the value they bring to government and its citizens.