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The *Journal for the Society of North Carolina Archivists* seeks to support the theoretical, practical, and scholarly aspects of the archival professions by publishing articles and reviews related to curatorial issues (e.g., collection management and development), technical services (e.g., cataloging, processing, digital collections, EAD, preservation, conservation, etc.), and public services (reference, instruction, outreach) for special collections and archives.

The *Journal* accepts a range of articles related to research, study, theory, or practice in the archival professions. All members of the archival community, including students and independent researchers, are welcome to submit articles and reviews. Contributors need not be members of SNCA or live in the state of North Carolina. The *Journal* will not reprint or republish articles submitted to and accepted by other publications.

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ABOUT THE COVER

Donna Baker

Postcard of Camp Greene, Charlotte, during World War I. (Original in color.)
Part of the Soldier's Stories Exhibit at the Charlotte Museum of History.

The Charlotte Museum of History, Hezekiah Alexander Homesite, American Freedom Bell, Backcountry Patriot Statue and Historic Gardens offers audience-focused programs and exhibits, based on the people, buildings, stories and objects spanning the region's history, while providing an historic context for understanding how conditions and decisions of the past impact the region today and shape its future. The Museum's collection is composed of over 10,000 American historical objects, papers and photographs. In addition to the museum facility, the 1774 Hezekiah Alexander House is fully restored and furnished for interpretation and educational programming.

the logistical support necessary, it is important to remember that the appropriate reference checks would have to be performed beforehand, especially for vendors handling sensitive or confidential data recovery operations.

Although *The Disaster Recovery Yellow Pages* does not focus specifically on the planning, salvage, or recovery efforts related to the preservation of cultural property, it does contain some listings that will be useful to libraries, archives, and other cultural institutions. Many of the major national disaster recovery vendors for libraries and archives, such as Munters Moisture Control Services and BMS Catastrophe, Inc. are listed. The American Institute for Conservation, which provides an excellent referral service for regional and local conservators willing to provide emergency assistance, assessment, and conservation services, is also listed.

In addition to the “yellow pages” portion of the publication, there is a 4-page Introduction that contains thoughtful observations that highlight the importance of disaster planning. The Introduction focuses primarily on aspects of business continuity, approaching disaster recovery from a more comprehensive perspective than many librarians and archivists may traditionally view the subject. Instead of focusing on salvage of collections or facilities, the Introduction takes a broader view aimed at restoring and maintaining operations during potentially extended periods of recovery. Planning and prevention are stressed as key elements and suggestions are provided to help expedite the process of disaster response and business continuity planning. Immediately following the Introduction are two useful pages of questions and suggestions that highlight the key elements, the “small but crucial” steps to building a comprehensive disaster recovery/business continuity plan.

Although certainly of interest to anyone responsible for disaster recovery of library and archival materials, this resource would be of most use to administrators and facilities managers responsible for ongoing business operations. This is not a guide to disaster recovery and may not provide the user with the appropriate local resources that must be included in specific institutional disaster recovery plans. However, reviewing this publication will give the user a good idea of the kind of services that will be needed to respond effectively to just about any disaster, large or small. *The Disaster Recovery Yellow Pages* will not guide the user through the many steps in developing a detailed, institution-specific disaster recovery plan nor does it aspire to take the place of one. It is presented as a supplement to a well-organized, up-to-date emergency plan that must be developed internally and collaboratively by members throughout your organization.

Scott W. Devine
North Carolina State University Libraries

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***Born Digital? Appraise Traditional!:
A Pilot Study on Intrinsic Value and Electronic Records
of State Government***

Donald M. Chalfant

This essay won the 2003 Gene J. Williams Award.

Introduction

In his 1993 guide to appraisal, F. Gerald Ham states, “The intrinsic value of a record is seldom included in a list of appraisal criteria, but it should be.”¹ Endorsed as an important concept in assessing the value of a record’s original physical form, intrinsic value has drawn only minimal attention recently as born-digital information introduced complexities seemingly beyond its design. As the amount of born-digital information entering archives continues to grow, archivists and archival theorists are re-exploring fundamental and long-standing practices to better manage these challenging, non-traditional materials. In an unusual circumstance, the electronic record that recently threatened to remove intrinsic value from archival practice might actually rescue it from obscurity. Through examination of recent writings on the nature and appraisal of electronic records combined with a pilot study by the author, this paper will demonstrate that intrinsic value is a practical appraisal criterion for electronically produced information. Applied judiciously, it could reduce costs, protect historically valuable information, and lessen the potential for legal action relating to permanent, born-digital collections.

As defined, intrinsic value “is the archival term applied to permanently valuable records that have qualities and characteristics that make the records in their original physical form the only acceptable form for preservation.”² Considering the intrinsic value of digital records requires exploration of the nature of digital information as well as how archivists use appraisal to determine the value of electronic records. On a macrolevel, there is the connection of the documents to their creation and use. This includes the potential for a record to document important people and events. The primary difference between other archival values and intrinsic value occurs when there is agreement that a record is best preserved in its original format.³ On a microlevel is the consideration of how an electronic document is formed and what constitutes the crucial

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The Museum is located at 3500 Shamrock Drive, in Charlotte, North Carolina. Hours are Tuesday–Saturday, 10:00 a.m.–5:00 p.m., and Sunday, 1:00–5:00 p.m.

Pat Ryckman

Disaster Recovery Yellow Pages (12th edition). Steven Lewis, Ph.D. (editor). Newton, Mass: The Systems Audit Group, Inc., 2003. \$98 (ISBN 0-9677468-4-1)

The Disaster Recovery Yellow Pages represents an interesting complement to many of the more practical how-to guides to disaster response that have been published in recent years. While many of the more recent publications exist as step-by-step guides for planning and responding to disasters in cultural institutions, *The Disaster Recovery Yellow Pages* is more of a tool for administrators responsible for developing business continuity plans. This publication lists hundreds of nationwide businesses and services that may be of assistance in restoring or maintaining a variety of business operations.

The publication is available in print as well as CD-ROM format. The print version arrives in a three-ring binder and is divided into six sections, including: consulting and services; hot sites, warm sites, cold sites, and teller facilities; disaster prevention and recovery equipment; software for planning and data recovery; publications and supplies; and an aggregated listing of vendors. Each section consists of alphabetical listings of vendors organized according to the type of service provided. Entries are presented in the same manner as any “yellow pages” directory. Few of the entries provide specific information about the scope of services or products offered other than a business address, telephone contact information, and, in many cases, a web address.

Disclaimers in at least two locations advise that all information appearing in *The Disaster Recovery Yellow Pages* originates with the vendors and that *The Disaster Recovery Yellow Pages* does not warrant the accuracy or the completeness of the information presented. Because of the need for immediate response and the guaranteed availability of reliable local resources in the event of a disaster, *The Disaster Recovery Yellow Pages* might best be used as a planning tool when developing or revising your institution’s disaster recovery and business continuity plan. Many of the businesses listed are located in either California or the Northeast. Some are in the Midwest. Relatively few appear to be located in the Southeast. Although the kind of services offered by these businesses are essential, they are not unique. For libraries and archives located in the Southeast, it would be best to identify local and regional vendors first, relying on vendors who are further away as a back-up in the event of a large-scale regional disaster. Assuming that one of the national vendors listed in *The Disaster Recovery Yellow Pages* were close enough or had the ability to provide

Taking the time is essential when viewing *Soldiers' Stories*. There is a wealth of layered material here but it requires more than a quick walk-through visit. The overall exhibit design is very effective in drawing the visitor in to explore the themes in greater depth. In the darkened space, the carefully lit artifacts and the backlit display panels literally glow and the overall effect is quite inviting. I lingered for over an hour when I visited on a quiet weekday morning. The experience would surely have been quite different if a school group had been visiting. The audio selections, so important a part of this exhibit, could be difficult to hear if more than one playback unit was operated simultaneously.

I mention my biggest concern with the exhibit on behalf of those visitors who do take the time to view the displays in depth and might even wish to learn more. Because there is no indication of a source for any of the letters, one would naturally assume that they are from the Charlotte Museum of History's collections. Many of the letters are, in fact, on loan from other institutions. A visitor hoping to learn more about Clarence Kuester's experiences with the 38th Evacuation Hospital should find a proper attribution directing him to the nearby J. Murrey Atkins Library on the University of North Carolina at Charlotte campus for hundreds of additional letters, photographs, and memorabilia.

Complementing the core exhibit is a detailed timeline, 1750-2001, which places the letters within the context of military history and significant events in the history of Charlotte, the United States and the world. Another display features the tools of letter writing and more recent communication devices utilized in wartime. An attempt to provide an interactive element to the exhibit falls a bit flat. Visitors are invited to send an electronic postcard to a soldier currently serving overseas. The anonymous email greeting contrasts sharply with the richness and emotion of the letters on display.

The museum staff has created a web site for the exhibit at www.soldiersstories.org, which offers excerpts from the letters, biographical information about the letter writers, the timeline and a few images. But the stars of the exhibit, the recordings by professional actors of excerpts from the letters, are available only at the Museum and well worth a visit. Johann Wolfgang Von Goethe wrote, "Letters are among the most significant memorial a person can leave behind them." The letters in *Soldiers' Stories: War in the First Person* are a memorial to the individual men and women who have served in wartime and also to the perseverance of the human spirit.

About the exhibit:

Soldiers' Stories: War in the First Person was an exhibit at the Charlotte Museum of History through September 2003.

components that make it an "original" document. Exploring the application of intrinsic value to electronic records presents several challenges, including the lack of experience archivists have working with born-digital records, the professional divisions over best practices for appraisal, and our limited understanding of the nature of digital information.

This paper is divided into two parts. The first part is a review of the theory and historical application of the intrinsic value concept as found in archival literature. The second part relates the information collected from a series of interviews with archivists and record managers at state archives and record agencies. These interviews were conducted in an attempt to determine if intrinsic value decisions are presently being made for electronic holdings and, if so, at what stage of the record's cycle. Another motivation comes from an interest in exploring how archivists and record managers consider the intrinsic elements of an electronic document in order for it to remain viable for research in the future.

History of Intrinsic Value

Over the last fifteen years, burgeoning populations of electronic documents have ignited debate over the applicability of widely used archival methods.⁴ Occupying a significant place within archival practice, appraisal serves as one of the major points of contention in the dispute between those favoring a macro-appraisal or an evidenced-based records management approach when dealing with electronic records and others advocating a traditional approach modeled on the methods established by T. R. Schellenberg in the years following World War II. Although Schellenberg officially recognized only *evidential value*, or value that served as evidence of business, and *informational value*, the value of the information contained within a document, he left open the possibility for another value decision, intrinsic value.

James M. O'Toole observed that Schellenberg "hinted" at intrinsic value and that the term had been "current" in appraisal and preservation circles for some time, eventually appearing in the archival glossary of 1974. It was not until 1979 when the National Archives and Records Service (NARS), under pressure to reduce its physical holdings, formed a committee to create a working definition that established intrinsic value as a professional technique.⁵ The final committee report released in 1981 formulated a set of guidelines for archivists to follow in determining the presence or absence of important characteristics that, if transferred to another form, would result in their loss. The "qualities or characteristics" of intrinsic value set forth in this memorandum included nine possible definitions, any one of which could qualify a document for preservation in its original format. These included the following: 1) Physical form that may be the subject for study if the records provide meaningful documentation of significant examples of the form; 2) Aesthetic or artistic quality; 3) Unique or curious physical features; 4) Age that

provides a quality of uniqueness; 5) Value for use in exhibits; 6) Questionable authenticity, date, author, or other characteristic that is significant and ascertainable by physical examination; 7) General and substantial public interest because of direct association with famous or historically significant people, places, things, issues, or events; 8) Significance as documentation of the establishment or continuing legal basis of an agency or institution; 9) Significance as documentation of the formulation of policy at the highest executive levels when the policy has significance and broad effect throughout or beyond the agency or institution. These nine guidelines created a practical method for applying intrinsic value and enabled consistent use across the archival community.

Several other general suggestions are found within this memorandum. For example, the committee recommended that the application of intrinsic value take place at the series level, although it was noted that there might be exceptions where “certain individual record items within a series [may] have intrinsic value.”⁶ Additionally, since these guidelines are designed to assist archivists in the determination of what records can be safely copied and then destroyed, the minimum characteristics of an archival copy is also stated. The committee declared that at the minimum, a copy should have “all the information of the original, be reasonably durable, easy to use as the original and, finally, capable of producing good copies.” It should be noted that the NARS definition of intrinsic value was not implemented in order to deaccession documents from the collections at the National Archives, but rather as a re-appraisal method to reduce an excessive bulk of paper holdings. Reappraisal determined which records could be transferred into another format, in this case microfilm, without a loss of value.⁷

Intrinsic Value Literature

Although it has been part of the archivist’s vocabulary since 1974, literature and discussions concerning intrinsic value are rare. One of the few, Shauna McRanor’s “A Critical Analysis of Intrinsic Value,” is highly critical of the NARS memorandum from a theoretical point of view. She attacks the guidelines as subjective and arbitrary and declares that they should be “best regarded as a *practice* of the National Archives, not as archival theory.” Although disavowing the preservation of information over records, she warns of the danger in devaluing the “original physical basis of a record” since “it is the combination of the intellectual and physical components of the archival document that constitute its form.” Demanding impartiality she concludes that “archivists must quickly disabuse themselves of practices that ascribe value to archives.”⁸ Unfortunately, McRanor’s style and tone angered practicing archivists and failed to have an impact on the archival community concerning the

of intangible human bonds. But when letter keepers die and generations pass away, most of these cherished letters are lost. Only a few will find their way to libraries and archives where they are filed and boxed away. Historians and other researchers will read and use them but the general public seldom has the opportunity. The Charlotte Museum of History earns a big huzzah for bringing letters out of the archives and making them the centerpiece of their current exhibit, *Soldiers’ Stories: War in the First Person*.

The exhibit features twenty-one letters depicting the personal impact of war over a two-hundred-year span, from the American Revolution to the war in Afghanistan. The letters were written by both the participants in the wars and their loved ones back home in the Carolinas. Originally intended as private correspondence, they often include mundane details such as descriptions of camp meals and weather. But the letters also reveal each individual’s response to his or her situation, and they have universal appeal in their depiction of human nature and human emotions in a wartime setting.

The exhibit is divided into seven sections with each section keyed to a theme such as “Patriotism and Pride,” “Fear and Despair,” and “Love and Hope.” Three letters from three different wars reflect the theme and take center stage in each section. Letters, by their very nature, are difficult to display effectively in a museum setting. They do not have the visual appeal of three-dimensional artifacts and are often difficult to read because of handwriting quirks, fading ink, and the need to reduce their exposure to light. The museum’s curatorial staff has overcome this problem through their very effective use of technology. A lighted panel at the front of each display includes a touch screen monitor on which the visitor can choose to listen to actors reading excerpts from the letters and hear biographical sketches of the writers in Spanish or English. Newsreel footage and music from the featured era are additional choices. Excerpts of recent video interviews with the letter writers complement several of the displays. For example, after reading Dorothy Dearmon’s letter to her young husband during his World War II tour of duty, we can view a recent video of the couple, now married sixty years, discussing their wartime memories.

Ranged behind each panel are photographs and artifacts relating to the letters. In many cases, the artifacts were used by the letter writer during wartime or actually mentioned in the letter on display. A particularly poignant artifact is a bottle of lotion sent to Clarence Kuester by his family during his service in World War II. He wrote of how the familiar scent reminded him so much of home. The artifacts are occasionally a bit confusing. Because of the thematic organization, a photograph from World War I may end up displayed next to Vietnam-era memorabilia. But the captions help sort it all out for visitors who take the time to read them.

makes the important distinction between online exhibitions and digitized collections made available online. Like traditional gallery exhibitions, online exhibitions are thematic and must have some form of organization and a narrative that leads visitors through the site. Thus, digitized representations of a map collection or a Civil War diary placed on the Web are online collections, not exhibits. To help readers create exhibitions, rather than online collections, Kalfatovic outlines the different types of exhibits, organizational structures, and themes that institutions can use to develop a workable idea. He goes through the exhibit planning process in detail, including institutional exhibition policies and the development of an exhibition proposal to further refine the idea and guide the designer through the execution process. He also addresses timelines, budgets, staff, and other issues designers need to consider when planning an online exhibition.

While many of the above steps also apply to traditional exhibitions, Kalfatovic devotes several chapters to technical issues specific to online exhibitions, including digitization, markup languages, programming, scripting, databases, web design, and accessibility. He provides basic explanations of the digitization process and the various markup languages available to build the actual exhibit. He also explains how the design of online exhibitions differs from gallery exhibitions, and he discusses important design elements such as layout, color, fonts, monitor and browser variations, and accessibility. Because these technical issues can be overwhelming at first, Kalfatovic does not go into great depth; rather, he provides readers with a basic introduction and includes additional resources for further exploration. His aim is to make readers aware of the technical issues they face while designing an online exhibit, not to make them technically proficient.

As more and more institutions turn to the web as an exhibition medium, it is important to have a guide outlining the basic principles involved in developing and building high-quality online exhibits. With its straightforward presentation and extensive resources, *Creating a Winning Online Exhibition* will prove a helpful reference tool to both cultural institutions experienced in designing online exhibitions and those contemplating the creation of their first online exhibition.

Laura C. Knodel
UNC Chapel Hill

Soldiers' Stories: War in the First Person an exhibit at The Charlotte Museum of History. (Reviewed on October 22, 2003.)

Up in the attic is a cache of yellowing letters bundled together and tied with a faded ribbon. A treasure of private memories to be reread and savored at quiet moments. Letters are wonderfully personal documents, tangible records

role of intrinsic value in appraisal.⁹ McRanor's all or nothing stance is representative of the differences between the *archives as evidence* approach stemming from Neo-Jenkinson and recent macro-appraisal literature and the *value attribution* approach as defined by Schellenburg.¹⁰ Proponents of a Neo-Jenkinson approach, including Luciana Duranti, find the application of value in the appraisal process to be a betrayal of the duties assigned to the archivist by society. In doing so, she surmises, archivists are engineering their own version of the archival record instead of preserving an accurate version for society to keep based on the evidence, not the information, they contain. As a result she concludes that, "Attributing value... would mean to renounce impartiality, endorse ideology and consciously and arbitrarily alter the societal record."¹¹

Following this approach, the macro-appraisal strategy, presently employed in the Canadian and Australian National Archives, gained momentum in the 1990s as amounts of electronically produced records increased. In the new literature, appraisal still remains a component of the archivist's duties, yet the focus is much different. The heart of macro-appraisal theory dispenses with assigning informational value to records as too cumbersome for massive amounts of electronic records and looks to substitute appraisal by evidence of business function. Furthermore, it places an emphasis on creating a non-custodial archive where the archivist is a proactive advisor to the records creator and custodian.¹²

These "new paradigms" have not gone unchallenged by devotees of Schellenberg. Linda Henry, for example, presents a strong case for continued application of "traditional" archival theory in the face of exploding amounts of electronic records. Denouncing the functional approach of macro-appraisal theory and its aspiration towards postcustodial future, Henry writes, "Using it, archivists would fill their archives with records that document only the 'footprints of bureaucrats.'... The value of archives is cultural and humanistic, not just bureaucratic." Furthermore, she disdains the failure of the new literature to explore "archival history and practice" as elements of their argument.¹³ Thus, the divisions are clearly delineated with champions of new theories facing off against proponents of accepted archival practices with intrinsic value either useful or not depending on which side of the discussion one believes.

Physical Form, Originality, and Integrity of Electronic Documents

Due to the nature of electronic records, establishing a practical application for intrinsic value is potentially more challenging than ascertaining its theoretical place in appraisal, which may help explain why the term has fallen out of favor in recent published literature. For one thing, the concept of intrinsic value relies heavily on content that is fixed in form. The physical form is accepted as an important element in most federal and state definitions of a traditional rec-

ord; however, determining what constitutes a “physical” electronic record is problematic. This issue is, nevertheless, important to consider. If one cannot delineate its physical form, an electronic record might be defined as any information moving through a digital environment. Clearly, this would be a cumbersome and untenable result.¹⁴

The first problem to be addressed is that the boundaries of digital media are not easily discernable. Electronic records exist in pieces with content stored in different locations that are reassembled only with the help of a software program and hardware system.¹⁵ An example is the use of networked information without fixed publication points, such as that of continuously updated databases with their, “integrity, or singularity [residing] in the coherence of the database as a whole.”¹⁶ Bringing together these discrete elements may allow only a temporary view of the content on a screen or other output device. This view may be different when elements are brought together at a later point in time. With content separated from context in electronic records, the ability to rely on fixity from a traditional viewpoint becomes strained.

David Levy, a former member of the Xerox Palo Alto Research Center, comments on this digital dilemma by challenging commonly held assumptions about the nature of documents; he points out that all documents, paper or digital, are fluid and that fixity is only a temporary state. Considering a paper document such as a memo of which copies are made, Levy points out that fixity is only achieved for short periods of time. The potential reader of the memo actually controls fixity; he or she may annotate the memo thereby making it fluid once again. “Fixity,” he states, “is not forever, and the rate of change and the ways in which they change are largely governed by the purposes they serve.”¹⁷ From this perspective, information in a digital format, although unique in many aspects, has more in common with its paper predecessors than commonly believed. It is our familiarity with paper that makes electronic records seem irreconcilable. However, equating documents that appear on a screen with traditional paper documents can be “deceptive.”¹⁸ The goal is to use these comparisons to better understand electronic records not to explain away differences.¹⁹

All records, whether in paper or digital form, share the common attributes of content, structure, and context and include both physical and logical attributes.²⁰ In electronic records, these attributes exist in both the record and the metadata of the record.²¹ Although structure consists of both physical and logical attributes, authors regularly refuse to identify electronic records as “physical entities.”²² Levy provides an alternative view, stating:

REVIEWS

Creating a Winning Online Exhibition: A Guide for Libraries, Archives, and Museums. By Martin R. Kalfatovic. Chicago: ALA, 2002. 117 p. \$40 (ISBN 0-8389-0817-9).

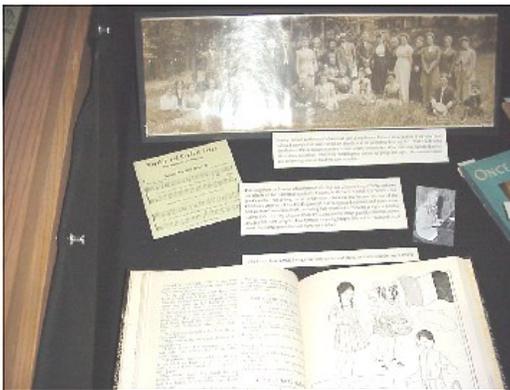
As the World Wide Web becomes more accessible and technologically advanced, libraries, archives, and museums are increasingly turning to it for outreach purposes. Not only do these cultural institutions create informative online research tools and provide digitized access to collections, but they have also begun to use the Web as a medium for exhibition. Online exhibitions not only allow these institutions to reach new and larger audiences, but they make it possible to display items that are too fragile or valuable for public display in traditional exhibits. However, online exhibitions also create new conceptual and technological challenges that can seem daunting to beginners, and even those with gallery exhibition experience.

Creating a Winning Online Exhibition: A Guide for Libraries, Archives, and Museums, by Martin Kalfatovic, is designed as a guide for those seeking to overcome the challenges of developing online exhibitions. Aimed at those just beginning to venture into the world of online exhibition creation, as well as the more experienced, the text provides an overview of the necessary technical and non-technical skills and concepts necessary for creating high-quality online exhibitions. Kalfatovic begins with the basics, including how to devise a workable idea for an exhibition, and then leads readers through the steps necessary to develop and execute a meaningful and cohesive online exhibition. He makes this journey accessible to both beginners and the experienced by presenting his concepts in a clear and succinct manner that is neither overwhelming nor redundant.

Numerous examples enhance and complement the text. Pictures and charts illustrate important points, such as scanning specifications, file format types, and variations in browser displays. In addition, appendices and Web addresses to online exhibits and resources supplement the text, covering topics ranging from exhibition themes and proposals to markup languages and design elements. However, while the online examples are a useful tool for exhibit designers, readers who attempt to explore all of these links while perusing the text can easily be distracted. For more extensive coverage of various topics, especially technical and design issues, each chapter also contains a bibliography listing texts and web sites.

Although libraries, archives, and museums have embraced digital technology as a vehicle for sharing their collections with a wider audience, Kalfatovic

Photograph 4: These items are all digitally reproduced and mounted to black foam core with spray adhesive. They are mounted to a painted gator board with self-adhesive Velcro.



Photograph 5: Display original materials in a locked case. The bound periodical is displayed on a book cradle. The panoramic photograph in the rear is covered with UV filter polyester and mounted to a piece of foam core with polyester corner mounts; it is angled for viewing with two small plate racks. The other items, photograph and labels, are mounted on foam core and propped up on card stock props taped to the back.

Digital documents are not immaterial. The marks produced on screens and on paper, the sounds generated in the airwaves, are as material as anything in our world. And the ones and zeros of our digital representations are equally material: they are embedded in material substrate no less than are calligraphic letterforms on a piece of vellum. It may be true that digital representations can move around extremely quickly, that they can be copied from one storage device to another, even when they are separated by thousands of miles. But at any one moment, the bits for a particular document are somewhere real and physical.²³

Understandably, the intangibility of digital documents could make this difficult to accept. However, considering that the paper document dates back to the 1300s, the amount of time spent establishing fixity of that medium hardly compares to the time spent attempting to understand the nature of digital information.²⁴ Levy's explanation, although requiring that archivists accept his word on faith, is a valuable move towards better understanding of digital records. Developing a better understanding of the nature of electronic records will take time. While it may currently be impossible to declare absolutely records as physical entities, it also makes sense to assume this is not necessarily a final judgment. Saying the details have not been worked out on how to achieve consistent fixity at this time is better than assuming that fixity is "inherently absent" from the digital domain.²⁵

As defined, intrinsic value is also dependent on the ability to separate an original from a non-original. However, the archival community's widely held belief regarding electronic records is that "there is no obvious difference between an 'original' and a 'copy.'"²⁶ This is understandable given that the ease in creating multiple copies identical to an original without reference to a "canonical version" produces documents with seemingly equal validity and quality; therefore, determination of an original is not an easy proposition.²⁷ Determining the value of an *original* versus a *copy of that original* is at the heart of intrinsic value decisions. Recent research may clarify this important and complicated concept. Norman Paskin notes that the purpose and the ability to recognize granularity is key to differentiating between a digital copy and an original digital document. "The crux of the problem," according to Paskin, "is that in determining whether A is the same as B, we find that ultimately nothing is the same as something else; however, it makes sense to consider that A is the same as B for a *defined purpose*." He ties this concept to the granularity of a digital artifact, stating that, "Recognising [sic] sameness among [sic] a population...depends on choosing which particular set of attributes of a number of entities we consider relevant...and ordering the population into sets defined by

the relevant attribute for the purpose in hand.”²⁸ For example, a copy of a CD has the “same” music as the original and can be thought of as “identical.” Upon further investigation, the revelation that it is recorded at a different time, most likely on a different machine and housed in a different case, makes it unique. Therefore, the key to determining an original is keeping accurate and detailed metadata to a level of granularity sufficient to identify it as a copy.²⁹

Unfortunately, defining a level of metadata acceptable to identify a digital entity for a specific use could still result in “identical” digital documents that meet the same accepted criteria, leaving the determination of an original in doubt. This difficulty of separating an original from a copy appears to reduce permanently the usefulness of applying intrinsic value to electronic records. However, this is not the case. The main problem stems from the archivist’s desire for uniqueness. O’Toole has pointed out that uniqueness is consistently “shaded and measured by degrees,” and that with the increasing use of technology eroding the traditional divide between an original and a copy, the expectation to find unique entities is less likely or necessary.³⁰ Tolerating the absence of a true original enables archivists to view an original electronic record as its digital representation, regardless of its uniqueness, instead of demanding a specific computer file in a specific format.³¹ Digital copies of the original can therefore be accepted as equivalent originals providing that they are exact duplicates for a stated purpose and have the corresponding integrity preserved. This solves the problem of defining and appraising only original records and shifts the focus toward finding acceptable authentic and reliable records, regardless of whether they are unique.

Although an electronic record lacks uniqueness, the need to ensure its integrity remains important. Solving the problem of integrity involves integrating authentication procedures and documenting changes made to electronic records. Techniques used in information security, including watermarking and checksums provide technological methods for declaring originality. Although not perfected, improving these techniques offers some assurance that digital records meet stated requirements of authenticity and originality. The opportunity to incorporate accurate tools is likely to improve as technologies improve; however, librarians and archivists are likely to remain “bystanders,” dependent on the development of better protocols and data security techniques from outside the profession.³²

Electronic Records and Intrinsic Value

With its roots in paper and questions remaining about the nature of electronic records, the literature on intrinsic value is naturally centered on traditionally

inexpensive support. Display racks or plate stands found at kitchen or frame stores can hold mounted items in wall or shelf cases at any angle needed; the hinged stands work especially well.

Exhibits do not have to be expensive and professionally constructed using materials to last for ages. Items can be safely displayed or inexpensively reproduced to create an informative, attractive experience for your visitors.



Photograph 1: Tools of the Trade: (left to right) Cans of spray adhesive for photographic paper and plain paper; both of these products were made by 3M. An exacto knife with a thick handle and a large blade gives you better control over the cut. Olfa Rotary Cutter (90 mm) and Olfa Cutting mat (35 x 23) has a useful grid for measuring. The plastic ruler is a good tool for measuring and making precise trims and makes an excellent straight edge for cutting.



Photograph 2: (top left, clockwise) Displaying a photograph mounted on foam core with a folded piece of museum board taped to the underside. You can make the angle as deep as you need. (Right) Hinged plate stand with a digital photograph in a window mat covered with UV polyester. (Bottom) An original color postcard mounted on acid-free foam core with polyester corner mounts.

Photograph 3: Using a rotary cutter to trim a digital print mounted on foam core. The largest size cutter (90 mm) works best because it will clear the combined depth of the foam core and the plastic straight edge/ruler easily.



they can be attached with an adhesive. Avoid using double-sided tape and liquid glues. Glue will cockle your paper and the double-sided tape can leave visible ridges in the copy. Using a spray adhesive, available at any craft or hardware store, that is formulated for plain paper (such as 3MJ Super 77 Spray) will produce an even coating with superior tackiness. Just be sure to apply it in a well-ventilated room and on a protected surface. We use newspapers to cover the table and plastic sheeting to protect the flooring.

The Nuts and Bolts of Exhibit Preparation: Supplies

All of the supplies you need to prepare your exhibit can be found at craft, hobby or sewing stores (Michael's, Hobby Lobby, Wal-Mart), home improvement centers or hardware stores (Home Depot, Lowe's), and office supply stores (Office Depot, OfficeMax, Staples).

Cutting mounted items: Items mounted to foam core or cardboard can be cut to size with an exacto knife or a rotary cutter on a cutting mat made especially for your tool or a foam board cutter that does not require a mat. Paper wears out cutting blades quickly, so be sure to have a supply of replacements on hand. If you have never used these tools, be sure to practice. Getting the feel for the rotary cutter, my preferred implement, takes some getting used to. Once you master the rotary, it is much easier and safer to use than the exact-o knife. Use a see-through ruler, or a quilter's rule, which is available in the sewing section of craft or department stores for your straight edge. It has the handy feature of being marked off in 1/8- to 1/4-inch increments that make cutting straight and equidistant all around easy. Make sure you get a long one so that you can measure large items effortlessly.

Mounting Items to the Display Board or Arranging Them in the Case

Commercial self-adhesive Velcro works extremely well to attach the mounted items to a background board. The adhesive is extremely tacky. It also gives relief to the exhibit so that it does not look one-dimensional. This Velcro can be found at office supply and craft stores in long, uncut lengths. Use cut squares (the squares do not need to be big) and place enough on the edges of the item so that it is properly supported all the way around. It can be carefully peeled off of the gator board, especially if it is been painted. It will not, however, come off of foam core easily. Double-sided tape will not stick mounted items to display boards very well, as they are too heavy, but it will attach items mounted to card stock.

In display cases, you can lay the mounted items flat or prop them up at a slight angle using a wedge of foam core that has been taped together. A short length of folded museum board taped to the back of the mount is an excellent,

archived materials with only occasional reference to digitally produced information. The two most recent explorations of the topic illustrate this inclination. For example, Shauna McRanor's investigation of the theory behind intrinsic value only slightly broaches the subject of electronic documents. Her only comment warns that the usefulness of concentrating on physical form as a requirement for intrinsic value in appraisal decisions regarding "electronic originals" was "further reduced" due to difficulties in defining an original electronic record.³³ Another research effort that hints at the digital implications of intrinsic value concludes by emphasizing the unstable nature of electronic documents as requiring either migration to a stable format such as HTML or converting digital resources to an analog representation (i.e., paper) while preserving enough metadata to restore it to digital form.³⁴

Recent research on appraisal and preservation of electronic records does not invoke intrinsic value by name; however, the implication that it is a viable consideration is apparent. The final report from the International Research on Permanent Authentic Records in Electronic Systems (InterPARES) appraisal task force incorporates ideas from both traditional and macro-appraisal literature but upholds the attribution of value during appraisal of digital information.³⁵ Among the activities necessary to establish an authentic electronic record are the identification of contextual information about the creation of the record and its technical elements and digital components. Identification of these elements results in a "list of intrinsic and extrinsic record elements that must be preserved in order to ensure authenticity." This is strikingly similar in nature, if not intent, to the "qualities and characteristics" statement from the 1981 NARS guidelines. In addition, the task force alludes to the acceptance of a "physical" form of an electronic record.³⁶ Although "physical" is not defined, the inference that electronic records have physical form is a sign that records professionals and theorists continue to contemplate and define the nature of digital information. In doing so, digital media becomes less mysterious and much more manageable.

It is the National Archives and Records Administration (NARA) that offers the strongest endorsement for protecting original digital information. Responding to the pressure exerted from the wholesale adoption of technology by government agencies and initiatives including the Paperwork Reduction Act, NARA is beginning to move towards an electronic records archive.³⁷ The overall goal is to create a system independent of specific hardware or software that will "store and read data in its original format no matter how it was created."³⁸ Although the development of a workable system is only in the planning stages, the intrinsic importance of the original bits is considered by NARA as crucial to long-term preservation of electronic records.

Intrinsic Value and Recent Legal Decisions

Recent legal decisions also support extending intrinsic value for use with electronic information. For starters, NARA's definition of a record, including both paper and electronic records, remains acceptable to the courts.³⁹ Furthermore, two separate court cases established a legal precedent for retaining electronic documents in original formats. In a 1993 ruling, *Armstrong v. Executive Office of the President*, the U.S. Court of Appeals ruled that printouts of presidential email "may omit fundamental pieces of information which are an integral part of the original electronic record." The ruling also concluded that there were "fundamental and meaningful differences in content between the paper and electronic versions of these documents." The court also demanded that in order to preserve this value, records should be maintained in a "record keeping system that preserves their content, structure and context for their required period." The ruling was not unique. In 1997, federal district judges ruling on *Public Citizen v. John Carlin* found that an electronic record's "administrative, legal, research, and historical value is not always captured—indeed, is usually not captured—by paper or microfiche copies."⁴⁰ Even though both rulings related to the transfer of electronic records to paper, the implications are strong enough to warrant a reconsideration of how electronic records are preserved in long-term digital storage. In other words, if an electronic record is potentially different when printed on paper, how different is it when migrated from its original software environment to another potentially more stable yet different environment? Questions such as these are necessary to help archivists decide the best course to take regarding the long-term preservation of information in digital form.

Applying Intrinsic Value to Electronic Records

The application of intrinsic value is not intended to replace other forms of appraisal, but rather to complement them. For this reason, intrinsic value could coexist with a functional or macro-appraisal system, serving as a safety net to ensure that important research information not being saved in a functional system is captured and preserved. In this limited sense, it serves as a bridge between older, widely employed strategies, and lesser-known new appraisal strategy. Since the NARS guidelines for determining intrinsic value were intended to provide guidance for paper-born records, just how useful they will be for digital information is unclear. Although some of the NARS criteria work just as well with digital as they do with paper, others do not easily make the transition. Nevertheless, it is important to establish how intrinsic value might serve an electronic records appraisal. The 1981 guidelines provide a useful starting point.⁴¹ Some potential applications to digital documents are as follows:

onto foam core and other supports, you can use colored papers to give the exhibit a more eye-catching appeal. Unless you have encapsulated your originals, it would not be prudent to arrange items on any kind of colored paper for case displays, even if it is acid free. Be aware that even the best colored papers will fade significantly when exposed to light over even a short period of time. Using copies also means you can alter the original image or document to highlight a certain passage or feature. I will leave it to you to decide the merits of cropping or enhancing your originals, however. Even the most inexpensive of inkjet printers on the market today will produce a clear, virtually flawless print, especially using glossy or matte finish photographic paper. If you do not feel compelled to use the photo papers, then use paper formulated especially for your printer (inkjet or laserJet) that has a high brightness factor (ninety plus) and a smooth finish. (Author's note: I own a Hewlett-Packard inkjet printer that cost under ninety dollars that produces remarkably good prints, especially with the photographic paper.) Scanners are also available at business supply stores for less than one hundred dollars and can produce high-quality files. If you cannot invest in this equipment or the budget is extremely tight, consider high-quality photocopies. If you do not have a good photocopier or do not have access to one in your institution, try a commercial copy business with color photocopy capability. Even large format color photocopies are affordable.

To add color to your exhibit, try printing text labels in colored ink or onto colored paper; or you can add colorful borders. Use quality paper (twenty-four pound bond or card stock) for a much better result. Using laserjet or inkjet paper will minimize feathering and give the labels a crisp, clean appearance.

Two years ago, my current institution went to digital copies for exhibits exclusively. We invested in a scanner, some photographic manipulation software (Adobe Photoshop 6.0 and Illustrator 9.0), and a large format printer, a HP DeskJet 1220. The printer was the most expensive item at \$499, but over the years it has been a true workhorse and has saved us thousands of dollars in printing costs. We purchase glossy and matte finish photographic print paper and continuous feed paper for large titles in bulk, available special order from the Internet from office supply stores. We can produce all our exhibit materials for the display boards in house. Not having to depend on an outside vendor to produce photographic duplicates saves us money and, more importantly, time, especially when confronting a looming deadline.

Mounting Your Copies

If you plan a wall or vertical type exhibit, you will have to attach your copies to a background. Mounting them first to foam core or gator board will give your exhibit relief and depth. You can also mount an item to a piece of paper and secure it to a bulletin board with thumb tacks. Since you are using copies,

length and width. You can mount quarter-inch corner trim, available from any home improvement store, with screws around the edges to give it a finished look. Use screw-in eye holes and utility chain to hang the board from the ceiling. The gator board is so lightweight that it can easily hang from drop-ceiling frame (be sure to check with your maintenance people before fiddling with the building's infrastructure.) The paper covering can be painted with ordinary flat wall paint to change the background color. If the board is treated well, it can be used for many years for numerous exhibitions.

For small or poster sized display boards or tabletop exhibits, foam core — gator board's smaller cousin—can be used. Foam core can be purchased at any craft or office supply store. It, too, is lightweight, easily cut to size, and covered with card stock, which comes in a variety of colors and textures. You can also purchase project boards, which are three-sided boards that stand up easily on their own. Or, you can use self-adhesive Velcro to make hinges to attach a number of boards to create surfaces for a larger display. Foam core can be easily mounted to the wall with framing materials.

If you choose to display original materials, security becomes the major factor in the type of display environment you can use. A locked case, either freestanding or a wall insert, is the only way to protect your valuable artifacts sufficiently while they are on exhibit. Never mount original materials to a support or display background with any form of adhesive. The adhesive will ruin or destroy the item.

Now that I have overstated the obvious, original materials can be arranged in the case artfully and safely using materials found in your supply cabinet.

Photographs and Documents

Your primary concern for displaying originals should be to provide adequate support and to protect them from light damage. You may want to cover or encapsulate the item with ultraviolet light filter polyester (an investment, to be sure; remember, being frugal does not mean being cheap.) This becomes especially important if the exhibit is slated to last for a period lasting more than a week or so. If you have any doubts about the preservation of your originals or if the exhibit is to be up for an extended period of time—three months or longer—consider displaying high-quality digital prints, photographic duplicates, or photocopies. Mount the encapsulated items to four-ply museum board or foam core with polyester corner mounts. A window mount or framing mat will enhance the display of photographs and texts.

Using copies opens up a number of creative options. Besides mounting

1) Physical form that may be the subject for study if the records provide meaningful documentation of significant examples of the form. The NARS committee used this characteristic to protect historically valuable examples of technological development. [Examples demonstrating metamorphosis of online public access programs from text-based, Kermit style to versions of Graphic User Interface (GUI) might be useful to library historians with an interest in technology.]

2) Aesthetic or artistic quality. In the digital realm this might include image and multimedia files such as those done in Flash or QuickTime. As connection and processing speeds increase, more institutions are utilizing this type of presentation and multimedia is increasingly found on both private industry websites as well as some public agency ones. In addition to commercially produced work, artists are exploring the realms of the digital world. In these cases, preserving the original would preserve its real value.

3) Unique or curious physical features. How does an e-book representation of *Moby Dick* viewed on a PDA differ from an electronic version on Bartelby.com? As technologies change, there will be continuing examples to choose from. Here, as in example one, the committee did not intend for these to be archived in large quantities, just representative samples.

4) Age that provides a quality of uniqueness. Because it is connected to scarcity, this is the least likely of the guidelines to apply to electronic records. However, NARS's original example concerns the earliest records relating to the development of nuclear power and radio. Considering the wide variety of technologies and their development, it is not unfeasible to think that records decisions made concerning technology will continue to be valuable to future researchers attempting to better understand how it affects institutions and agencies.

5) Value for use in exhibits. Visiting the traveling exhibit of presidential portraits is an enlivening experience. Future museumgoers may enjoy seeing how successive presidents or governors used their websites to promote themselves to the public. Additionally, web sites of government agencies at lower levels than the executive, such as the state and federal environmental protection agencies, may also qualify.

6) Questionable authenticity, date, author, or other characteristic that is significant and ascertainable by physical examination. Court cases such as *Armstrong vs. The Executive Office of the President* have already begun to address the importance of retaining digital information in their original formats. Other examples, including one from the InterPARES project note that electronic records might be preserved if “poor record keeping practices” or evidence of “willful or fraudulent tampering with the records comes to light during appraisal.”⁴²

7) General and substantial public interest because of direct association with famous or historically significant people, places, things, issues, or events. It is

reasonable to think that the email of a famous person or important government official may be of interest to future researchers. The closer this information is kept to the original, the more significant details that may be ascertained. For example, official communication between weapon inspectors and officials in Washington before the start of the conflict in Iraq will be important to future historians. Transferring original digital messages to other formats without considering the important intrinsic elements first, could result in an irretrievable loss that may reduce our ability to better understand past events. As the committee noted, this guideline is the most difficult to apply because of the large numbers of records that might qualify. Therefore, tough scrutiny is mandatory when applying this guideline.

8) Significance as documentation of the establishment or continuing legal basis of an agency or institution. As the NARS paper states, maintaining the original formats of these records may provide documentation of changes including the gain or loss of functions and responsibilities through decisions made by the executive, legislative and judicial branches of government. Email and spreadsheets used to influence these decisions are an example.

9) Significance as documentation of the formulation of policy at the highest executive levels when the policy has significance and broad effect throughout or beyond the agency or institution. Preserving the original record affords researchers the best possible view of these changes. For example, GIS files that are used to make decisions regarding redistricting would be of greater value if the original bits were available for researchers to investigate what data were actually available to make these decisions.

The committee understood that numerous policy decisions are made by government and not all are intrinsically valuable. Those that are often include decisions made at the highest executive level. Additionally, web sites are of particular interest at the governmental level. They can serve as a promotional device, an information portal, and as a means to disseminate public policy information to the general public. Depending on the depth that archivists mine information from linked sources, the impact of influences from outside government could also be explored. Because of this diverse usage, original HTML files with links intact could prove valuable to historians investigating election strategies or public policy promotion at executive levels.

The NARS guidelines only translate to electronic records to a certain degree and new ways to approach intrinsic value should be explored. Mike Miller poses three questions that should be asked when deciding the ability of a non-original format to represent an original. These include: "What do I lose?"; "If lost, does it affect people's ability to use and understand records in the future?"; and "How much does it cost?" He notes that although digital data from CAD/CAM, GIS, and computer modeling are the only data currently

The Frugal Exhibit

Diana Ruby-Sanderson

Chances are, at some point in your career, you will be asked to create an exhibit featuring items from your collections. And why not? Your collections deserve to be shown off, and the exhibit is a great forum for educating your public about your institution and about the snippets of the human experience contained within it.

This article will provide some practical, down-to-earth advice on products and techniques for creating an exhibit frugally. Popular PBS personality and chef, Jeff Smith, was a passionate advocate for frugality: Frugal does not mean cheap. Being frugal is all about using the very best that you can. Sometimes more really is just more, and not in a good way.

Exhibits are, by and large, temporary creations. Since they are intended to last only a short time, there is no need to use acid-free, lignin-free, expensive mounting materials from archival supply companies. Unless you have access to a photographic lab, why go to the fuss of making expensive photographic prints when a good, clean digital image will work just as well for the short duration of the exhibit. With limited budgets for preservation supplies, it makes sense to use materials that are easily obtainable from local businesses for exhibits that will last only a short time.

The Display Case or Boards

No need to invest in a fancy glass case for your exhibit. Perfectly fine exhibits can be mounted on flat boards hung against the wall or set up on a table.

If a wall space is available, use lightweight boards to create space rather than the wall itself. Most institutions do not allow objects to be hung on walls directly; usually hanging things involves perforating the wallboard or block, which building superintendents are loathe to deal with. Most exhibits involve a number of small items, so it simply is not feasible to mount directly to the wall. Gator board—two to one-inch thick paper-encased Styrofoam—is an inexpensive, lightweight, tough alternative, which makes a marvelous wall display board. It comes in many sizes and can be easily cut with a power saw to any

Diana Ruby-Sanderson was Special Collections Archivist with the Presbyterian Historical Society in Montreat, North Carolina, where she learned all about exhibit construction. She is now Archivist of The Asheville School.

⁵⁴ Meyer H. Fishbein, "The Traditional Archivist and the Appraisal of Machine Readable Records," in *Archivists and Machine Readable Records*, ed. Carolyn L. Geda, Eric W. Austin, and Francis X. Blouin, Jr. (Chicago: Society of American Archivists, 1980), 56-61. Fishbein discusses what questions need to be answered by archivists appraising electronic records for historical value.

⁵⁵ National Archives Records Administration, *Intrinsic Value in Archival Material*. The criteria are 1) Physical form that may be the subject for study if the records provide meaningful documentation of significant examples of the form; 2) Aesthetic or artistic quality; 3) Unique or curious physical features; 4) Age that provides a quality of uniqueness; 5) Value for use in exhibits; 6) Questionable authenticity, date, author, or other characteristic that is significant and ascertainable by physical examination; 7) General and substantial public interest because of direct association with famous or historically significant people, places, things, issues, or events; 8) Significance as documentation of the establishment or continuing legal basis of an agency or institution; 9) Significance as documentation of the formulation of policy at the highest executive levels when the policy has significance and broad effect throughout or beyond the agency or institution.

⁵⁶ Dollar, *Authentic Long Term Records*, 72.

⁵⁷ Kathryn Hammond Baker, "The Business of Government and the Future of Government Archives," *American Archivist* 60 (Spring 1997): 250.

⁵⁸ Roy C. Turnbaugh, "Information Technology, Records and State Archives," *American Archivist* 60 (Spring 1997): 189. The competition between state archives and other agencies for information technology resources is not unusual.

⁵⁹ *Ibid.*, 191-192. Turnbaugh states that state programs that separate archives from records management have difficulty "eliminating disconnects" between the two. In some cases the government agencies prepare series descriptions instead of records managers, thereby making it more difficult for the archivist to appraise the records. Also, where records managers are describing records, the archivist often duplicates the effort when records are archived.

⁶⁰ The interviews revealed that Agency 8 used this approach.

⁶¹ James M. O'Toole, "Do Not Fold Spindle or Mutilate: *Double Fold* and the Assault on Libraries" *American Archivist* 64 (Fall/Winter 2001): 393.

meeting his criteria, there are other types worth considering. For example, understanding why the FBI failed to produce all necessary documents for the case against convicted terrorist Timothy McVeigh can be facilitated by an investigation of the clunky interface and restrictive environment the system presented to its users.⁴³ As more digitally produced information is brought into permanent collections, additional principles are likely to apply.

Another set of guidelines for determining whether to retain electronic records permanently is suggested by David Stephens and Roderick Wallace. They suggest considering whether: (1) The value of the data and the benefits of preservation, have been clearly established. The value of the data must be *substantial* and the benefits of preservation must be *demonstrable, if not quite compelling!* (2) The preservation of the data in *manipulatable, computer-processable* form is *required* to support *significant* research objectives. (3) The conversion of the data from a *dynamic* to a *static* state (e.g., from digital to microfilm format) would severely diminish its value or render it unusable to satisfy required (rather than "nice to have") research objectives. (4) Finally, appraisal decisions to preserve electronic records permanently should, where possible, be supported by *cost benefit analysis*. At a minimum, the benefits of preservation should be based on a *high degree of expected usage* of the data.⁴⁴

Consideration of cost is important, especially to archives and records programs subject to severe cutbacks in budget. Appraising for intrinsic value offers archivists a method for cost reduction since it separates records requiring potentially costly preservation in their original formats from those that can be preserved in cheaper nonoriginal formats.

The cost of preserving these records is directly proportional to changes in computer technology, and considering Moore's law, major technology change occurs at the rate of every eighteen months. Archivists are under great pressure to keep up with these changes while simultaneously reducing costs. Unfortunately, a digital record may only last as long as the technology that supports it.⁴⁵ This scenario results in an expanded role for appraisal as an important cost reduction technique. Considering only the difficulties associated with the digital preservation of electronic documents and not the information contained in those documents, technological concerns might be cited as an excuse not to appraise electronic documents. However, technology concerns should be considered an accessioning problem and not a problem affecting appraisal. It should not become prerequisite for appraisal decisions that result in the destruction of potentially valuable information without it ever being appraised.⁴⁶ InterPARES addresses this problem as well:

The balance between value and feasibility rests on an exercise of

judgment, on a case-by-case basis. For example, an appraiser could be confronted with a situation where preserving records would entail considerable costs. But this does not necessarily tip the decision against preserving the records. If the records were of extraordinary importance or their preservation were mandated by law, the archivist might look for either alternative sources of funding or another preserver, or come to an arrangement by which the creator would preserve the records—at least for a certain period of time.⁴⁷

The result of retaining digital records in their original formats could increase costs with the financial burden falling on the archive or records agency. As a result, the desire to appraise for intrinsic value will likely be lessened and practical circumstances will undoubtedly make this a consideration.

Applying intrinsic value does provide an advantage for archives that preserve electronic records in native formats. Because large digital content management systems presently being explored by NARA to archive electronic records digitally are likely to remain rare for agencies and institutions on tight budgets, intrinsic value could actually be used as a means to reduce costs associated with preserving records in their original formats. Assuming costs of preserving native formats would be significantly higher than converting them to a stable format such as microfilm, for archives that wish to keep some records in native format, intrinsic value is crucial in separating those records where original bits are important from those where they are not. Applying this appraisal standard could help archivists and record managers decrease the amount of records kept in their original format to only those that meet certain guidelines, thereby reducing costs.

Finally, although the application of intrinsic value to digital information calls for objects to be retained in their original bits, warnings about retaining digital information *only* in obsolete computer formats should be observed.⁴⁸ Since the purpose of archiving anything is to preserve it for future use, retaining electronic records only in an unsupported and unreadable format for the sake of intrinsic value undermines this goal. Best practices dictate that, at the very least, a stable form of the record should be kept in addition to the original to ensure that a usable version of the record remains accessible.

Part II – Pilot Study

Goals of the Study

This pilot study seeks to find out how archives and records agencies are presently appraising and preserving electronic records by interviewing professionals at various state institutions. Also important to this study is to determine the

³⁵ InterPARES Project Appraisal Task Force, *Part Two—Choosing to Preserve*, 11-12.

³⁶ Jason Miller, “Digital Records Swamp NARA,” *Government Computer News*, February 2003, www.gcn.com/22_3/news/21096-1.html.

³⁷ *Ibid.*, comment of Reynolds Cahoon, assistant archivist of human resources and information systems.

³⁸ Henry, “Schlellenberg in Cyberspace,” 316.

³⁹ U.S. General Accounting Office, *Information Management: Challenges in Managing and Preserving Electronic Records* (Washington, D. C.: 2002), 61.

⁴⁰ National Archives Records Administration, *Intrinsic Value In Archival Material*. Although meeting one of the qualities of characteristics could qualify a record series as having intrinsic value, NARA suggested that more stringent guidelines should usually be followed.

⁴¹ InterPARES Project Appraisal Task Force, *Part Two—Choosing to Preserve*, 11

⁴² Michael L. Miller, “Intrinsic Value” (audiotape of comments of session chairman presented at the annual meeting of the Society of American Archivists, Birmingham, Ala., August 2002).

⁴³ David O. Stephens and Roderick C. Wallace, *Electronic Records Retention: An Introduction* (Prairie Village, Kans.: ARMA International, 1997), 56. Emphasis added by authors.

⁴⁴ Margaret Hedstrom, “The Digital Preservation Agenda,” in *The State of Digital Preservation: An International Perspective: Conference Proceedings* (April 2002), 35.

⁴⁵ Michael L. Miller, “Is the Past Prologue? Appraisal and the New Technologies,” in *Archival Management of Electronic Records*, Archives and Museum Informatics Technical Report, no. 13 (Pittsburgh: Archives and Museum Informatics, 1991), 42.

⁴⁶ InterPARES Project Appraisal Task Force, *Part Two—Choosing to Preserve*, 14.

⁴⁷ Hedstrom, “The Digital Preservation Agenda,” 35; Stephens and Wallace, *Electronic Records Retention*, 17-18.

⁴⁸ Agencies in this study are identified by a number to protect confidentiality.

⁴⁹ Agencies in this study are identified by a number to protect confidentiality.

⁵⁰ David Bearman, *Archival Methods* (Pittsburgh: Archives and Museum Informatics, 1989), www.archimuse.com/publishing/archival_methods; Henry, “Schlellenberg in Cyberspace,” 321. Bearman was first to suggest archivist take a post-custodial role; Henry questions the soundness of the non-custodial approach.

⁵¹ Turnbaugh, “What Is an Electronic Record,” 30-31.

⁵² Alan S. Kowlowitz, “Playing the Electronic Angles and Digital Seams, the Challenges and Opportunities State Electronic Government Initiatives Present to State Archival and Records Management Programs” in *Selective Approaches for Managing Electronic Records and Archives*, ed. Bruce W. Dearstyne (Lanham, Md.: Scarecrow Press, 2002), 89-108. Kowlowitz discusses the potential impact of e-government initiatives and laws.

⁵³ *Armstrong v Executive Office of the President*, 810 F. Supp. 335 (U.S. Dist).

¹⁷ David M. Levy, "Fixed or Fluid? Document Stability and the New Media," in *European Conference on Hypermedia Technology 1994 Proceedings* (New York: ACM Press, 1994), 26.

¹⁸ Turnbaugh, "What Is an Electronic Record," 32.

¹⁹ Levy's comparisons, in my opinion, are effective for this reason.

²⁰ Charles Dollar, *Authentic Long Term Records: Strategies for Long Term Access* (Chicago: Cohasset Associates, Inc, 2000), 23. Dollar defines logical attributes as the part of a document that is typically hierarchical such as found in a memo that includes a header, a body, and signature. The physical attributes include type fonts, line spacing, page margins, etc.

²¹ Mary Rawlings Milton, "Electronic Records and The Law: Causing The Federal Records Program To Implode?" (Ph.D. diss., Virginia Polytechnic Institute and State University, 2000), 7. Also available online at <http://scholar.lib.vt.edu/theses/available/etd-04202000-1340008/>.

²² Dollar, *Authentic Long Term Records*, 25.

²³ David M. Levy, *Scrolling Forward: Making Sense of Documents in The Digital Age* (New York: Arcade Publishing, 2001), 155-56.

²⁴ Charles Dollar, *Archival Theory and Information Technologies: The Impact of Information Technologies on Archival Principles and Methods* (Macerata, Italy: University of Macerata, 1992), 36.

²⁵ Levy, *Scrolling Forward*, 37.

²⁶ Hedstrom, "Electronic Archives," 316.

²⁷ Clifford Lynch, "The Integrity of Digital Information: Mechanics and Definitional Issues," *Journal of the American Society for Information Science* 45 (1994): 743.

²⁸ Norman Paskin, "On Making and Identifying a 'Copy,'" *D-Lib* 9 (January 2003), www.dlib.org/dlib/january03/paskin/01paskin.html; James M. O'Toole, "On the Idea of Uniqueness," *American Archivist* 57 (Fall 1994): 639.

²⁹ O'Toole, "On the Idea of Uniqueness," 657. He reveals that because uniqueness is common, especially in modern records, it does not allow us to draw any meaningful distinctions.

³⁰ Gregory S. Hunter, "The Archival Hedge: Intrinsic Value and Electronic Records" (audiotape of paper presented at the annual meeting of the Society of American Archivists, Birmingham, Ala., August 2002).

³¹ Conway, *Preservation in the Digital World*.

³² McRanor, "Critical Analysis," 410.

³³ Angelika Menne-Haritz and Nils Brubach, "The Intrinsic Value of Library and Archive Material," *Microform and Imaging Review* 29 (Summer 2000): 81-82, 85. Interestingly, the authors seem to overlook that conversion to paper defeats the basic principle of intrinsic value, namely the retention of records in their original form.

³⁴ InterPARES Project Appraisal Task Force Report, *The Long Term Preservation of Authentic Electronic Records: Findings of the InterPARES Project: Part Two—Choosing to Preserve: The Selection of Electronic Records*, (University of British Columbia: 2001), www.interpares.org/book/interpares_book_e_part2.pdf: 9-10.

potential for the addition of intrinsic value analysis to the practices presently being employed by state records professionals. Lastly, this study seeks to determine this by investigating both similarities and differences between various agencies at the state level.

The goals of this pilot study were to explore the appraisal and preservation practices of nine state archives and record agencies in an attempt to address the following questions:

1. Is the concept of intrinsic value, including the protection of the original file in its native format, being applied to electronic records both in or outside state archives custody?
2. To what degree are components of electronic records, including contextual information (metadata) as well as attachments and information from embedded links, deemed valuable at the state level?
3. What influence do state and federal laws have on the application of intrinsic value analysis to state documents?
4. Do the methods used by state institutions to preserve electronic records maintain their intrinsic value?
5. What is the impact on the intrinsic value of electronic records maintained in state archives by researchers that use these records?

The decision to focus on the practices of state agencies for this pilot study was made for several reasons. First, the chances of finding archives and records management departments with electronic records experience and holdings were deemed to be greatest at the governmental level. Second, comparing how states are managing their electronic records provided an opportunity to investigate an area of interest to this researcher. Finally, while a study of federal practices would be useful, it was hoped that a wider understanding of intrinsic value and the potential for applying it to electronic records could be gained by contrasting and comparing appraisal and preservation techniques across several archives and record centers.

Methodology

A total of nine state archives and record agencies were selected, mostly from the Southeast, and telephone interviews were arranged through email.⁴⁹ In some cases, the person contacted referred the interviewer to a co-worker or subordinate who was knowledgeable about the records program at that institution. As this pilot study intended to provide a point of departure upon which future research could be built, the number of state archives involved was intentionally kept to a minimum. Selection of a specific institution was made after researching state web sites revealed efforts to manage electronic records at some level. Efforts included published records schedules that included electronic records, guidelines for management of email, policy statements specifi-

cally addressing electronics records, and education and training opportunities for employees in state agencies on how to manage their electronically produced information of value.

After selecting the agencies, emails were sent to records managers, identified from their agency web sites, inviting them to participate. Interviews were then scheduled with the first nine to respond. The interviews were conducted by telephone over a period of two weeks. In conducting the interviews, one archivist or records professional usually answered all the questions to the best of his or her knowledge; however, in two of the interviews, two professionals answered the questions—an archivist and records manager in one and a records professional and an information technologist in the other.

Electronic records are a relatively new problem for state archives. As intrinsic value of traditional archival materials is considered only on a limited basis, it was doubtful that intrinsic value would be purposely considered when appraising electronic holdings. This is especially pertinent taking into account that questions concerning the nature of digital documents remain unresolved. Therefore, the interviewer wrote questions to avoid placing an overemphasis on the term “intrinsic value” and instead focused on behaviors that might reveal decisions and strategies made as a result of considering the intrinsic nature of electronic records. It was hoped that these decisions would expose commonalities with the intrinsic value guidelines outlined by NARS, legal influences concerning the originality of electronic records, and research preferences of users. Therefore, questions were arranged by the ideas that influence the concept of intrinsic value and included legal issues, identification and preservation of key elements of electronic records, originality, cost, and long-term preservation of research material. The list of the questions is located in appendix A.

Significance

This pilot study begins an exploration of the degree to which state archives and records centers are determining the value of their electronic records holdings based on intrinsic elements found in or related to those records. The information collected in this study serves three distinct purposes. First, the study identifies how some state records programs are presently thinking about intrinsic components of electronic records. In doing so, it will provide state archivist and records managers with information about how other states are approaching this topic. Second, the use of intrinsic value in appraisal and management of electronic information, including the need to preserve original data, is explored. Thus allowing professional archivists and records managers to determine if and when it should be applied during appraisal. Third, it will provide a background for future studies on the application and use of intrinsic value with

that it considers the “inherent worth” of a document, including the physical characteristics, content, circumstances of creation, and use.

⁴ Sally McInness, “Electronic Records: The New Archival Frontier?” *Journal of the Society of Archivists* 19 (1998): 211-220.

⁵ James M. O’Toole, “On the Idea of Permanence,” *American Archivist* 52 (Winter 1989): 22. O’Toole notes that, “Schellenberg had hinted at this idea in his discussion of the form and uniqueness of certain records.”

⁶ National Archives Records Administration. *Intrinsic Value In Archival Material*. Staff Information Paper Number 21. Washington, D.C.: 1982. www.archives.gov/research_room/alic/reference_desk/archives_resources/archival_material_intrinsic_value.html. Although meeting one of the qualities of characteristics could qualify a record series as having intrinsic value, NARA suggested that more stringent guidelines should usually be followed.

⁷ Mageyne Daniels, “Intrinsic Value, Archival Education and Irrelevancy” (audiotape of paper presented at the annual meeting of the Society of American Archivists, Birmingham, Ala., August 2002).

⁸ Shauna McRanor, “A Critical Analysis of Intrinsic Value,” *American Archivist* 52 (Fall 1996): 405.

⁹ L. Dale Patterson, “Intrinsic Value: To the Editor,” *American Archivist* 61 (Fall 1998): 245-247; Daniels, “Intrinsic Value, Archival Education, and Irrelevancy.”

¹⁰ McRanor, “Critical Analysis,” 410; T.R. Schellenberg, *Modern Archives: Principles and Techniques* (Chicago: University of Chicago Press, 1956), 15, 148-60.

¹¹ Luciana Duranti, “The Concept of Appraisal and Archival Theory,” *American Archivist* 57 (Spring 1994): 328-44.

¹² For examples of papers focusing on macro-appraisal, see David Bearman, “Archival Strategies,” *American Archivist* vol. 58 (Fall 1995); Terry Cook, “Electronic Records, Paper Minds: The Revolution in Information Management and Archives in the Post Custodial and Post Modernist Era,” *Archives and Manuscripts*, vol. 22 (November 1994); Margaret Hedstrom, “Electronic Archives: Integrity and Access in the Network Environment,” *American Archivist*, vol. 58 (summer 1995); Richard Cox, “Why Records Are Important in the Information Age,” *Records Management Quarterly*, vol. 32 (January 1998).

¹³ Linda J. Henry, “Schellenberg in Cyberspace,” *American Archivist* 61 (fall 1998): 313.

¹⁴ Roy C. Turnbaugh, “What is An Electronic Record?” in *Selective Approaches for Managing Electronic Records and Archives*, ed. Bruce W. Dearstyne (Lanham, Md: Scarecrow Press, 2002), 25.

¹⁵ Paul Conway, *Preservation in the Digital World* (Washington, D.C.: Commission on Preservation and Access, 1996), www.clir.org/pubs/reports/conway2/index.html.

¹⁶ Donald Watters and John Garrett, *Preserving Digital Information: Report of the Task Force on Archiving of Digital Information* (Washington, D.C.: Research Libraries Group and Commission on Preservation and Access, 1996), 14.

_____. "On the Idea of Uniqueness." *American Archivist* 57 (Fall 1994): 632-58.

Paskin, Norman. "On Making and Identifying a 'Copy'." *D-Lib* 9 (January 2003). www.dlib.org/dlib/january03/paskin/01paskin.html

Patterson, L. Dale. "Letter to the Editor." *American Archivist*. (Fall 1998): 245-8.

Schellenberg, T.R. *Modern Archives: Principles and Techniques*. Chicago: University of Chicago Press, 1956.

Stephens, David O. and Roderick C. Wallace. *Electronic Records Retention: An Introduction*. Prairie Village, KS: ARMA International, 1997.

Turnbaugh, Roy C. "Information Technology, Records and State Archives." *American Archivist* (Spring 1997): 184-200.

_____. "What is An Electronic Record?" In *Selective Approaches for Managing Electronic Records and Archives*, edited by Bruce W. Dearstyne, 23-34. Lanham Md.: Scarecrow Press, 2002.

U.S. General Accounting Office. *Information Management: Challenges in Managing and Preserving Electronic Records*. Report to Congressional Requesters. Washington, D.C., June 2002, GAO-02-586.

Watters, Donald and John Garrett. *Preserving Digital Information: Report of the Task Force on Archiving of Digital Information*. Washington, DC: Research Libraries Group and Commission on Preservation and Access, May 1996.

REFERENCES

¹ F. Gerald Ham, *Selecting and Appraising Archives and Manuscripts* (Chicago: Society of American Archivists, 1993), 61.

² National Archives Records Service, *Intrinsic Value in Archival Material*, (Staff Information Paper, no. 21, 1982; 1999). http://www.archives.gov/research_room/alic/reference_desk/

³ Lewis J. Bellardo and Lynn Lady Bellardo, *A Glossary for Archivists, Manuscript Curators and Record Managers* (Chicago: The Society of American Archivists, 1992), 13, 19. Several types of value are regularly cited during appraisal, including the administrative, legal, fiscal, evidential, informational and intrinsic value of a record. These decisions are strongly influenced by a particular record or group of record's use either before or after it is archived. For example, evidential value is applied when a record "[illuminates] the nature and work of their creator by providing evidence of the creator's origins, functions and activities." Administrative, fiscal, and legal values are applied when a record might be useful in conducting current or future business activities. Informational value refers primarily to the historical use of a record "for reference and research deriving from the information they contain on persons, places, subjects, etc." Of this group, only intrinsic value detours slightly from a focus on use only. Intrinsic value, as defined, differs in

electronic records and help gauge possible changes in approaches to digital information management.

Study Findings

The study findings are arranged by the concepts defined in the interview questions, with an introductory section on the background and characteristics of the archives. A section follows on the factors that influence acquisition and appraisal decisions, including legal and possible intrinsic factors. The third section includes decisions concerning preservation of electronic records and their impact on the intrinsic value of the collection. A final section addresses the present and future impact on research by these records and how intrinsic value facilitates research.

Electronic Records in State Collections

The oldest electronic records of the nine state agencies interviewed were accessioned around 1991. Three of the agencies accepted their first electronic data just in 2002. The interviews reveal that states have been scheduling electronic records longer than they have been accessioning them. For example, Agency 3 scheduled records for ten-to-twelve years prior to accepting its first batch of email last summer. Not all agencies interviewed accept the transfer of electronic records into their facility. Agencies 1, 2, and 7 have all taken a non-custodial approach toward electronic records, which permits the creators to manage records they create with guidance from records professionals.⁵⁰ Each agency does this for several reasons. In the case of Agency 1, the nature of the state government as defined by its constitution demands that state agencies maintain a level of autonomy; therefore, these agencies do not send their records to a central location and collections are managed on-site with consultation from the state records division. Because of financial constraints and the cost of maintaining electronic records, Agency 7 does not accession electronic records. Although the management of these records is left to the agency that produces them, a state information technology division does make backup tapes of agency records. These tapes, however, are not maintained by the records agency. For Agency 2, this situation may change over time because the potential development of a "data archive" to house electronic information is under consideration.

With the preservation of electronic records only a recent archival practice for most archives, it comes as no surprise that the size of the collections are relatively diminutive. While seven of the nine records agencies did archive some born-digital information, the exact size of electronic records holdings by the

respective states was unclear. A common descriptor of collection size was “small.” Agency 3 disclosed a 45-gigabyte collection, while Agency 8 was less specific, having accessioned “seven or eight CDs” dating back only to last year. Agency 4 placed its collection at “less than ten separate series,” while the other interviewees with holdings were not quite sure of the exact size.

These collections are comprised of a variety of document formats and include email, word processing files, and image files—both TIFF and JPEG—among others. Additional formats also being archived include HTML and database information. Agency 5, for instance, is archiving a database of prison records stored on magnetic tape, while Agencies 6, 8, and 9 are archiving the web sites of three governors. The techniques utilized to archive these web sites vary widely. In one instance the original HTML was preserved, and in the other two, only a screen shot of the main page was kept. An effort to preserve a streaming video file containing a governor’s message that had been part of an executive-level web site failed, because the site had been managed by a contractor who deleted the file. Efforts are being made to ensure this type of information is kept in the future. All of these agencies noted that the scope of preservation was limited to the web site itself and no effort was made to follow links from the web site to other pages. As one respondent stated, “we don’t archive the Internet.”

Agencies 3, 4, 5, 7, and 8 accessioned email. In all instances, email was produced at the state executive level. In most cases, the need to capture attachments was considered important; it was not always clear that this was being done. Not surprisingly, information from embedded links was not actively sought because of the prohibitive time and cost involved in researching this information.

Five agencies said that they appraise electronic records at the series level, one agency made decisions based on the material itself, and the other three were non-custodial. Because several of those interviewed began dealing with electronic records only recently, it was difficult to identify the components of records, such as contextual information, that might be intrinsically valuable. Nevertheless, the interviews identified several types of contextual information of notable importance. This included header information from email, information about software used to create the record, about who had access and when, and about the original operating system. When asked what kind of contextual information is kept, one respondent stated, “Everything we can get!”

Legal Issues

Legal definitions of electronic records were presented by seven of the nine states on their web sites. In lieu of independently addressing electronic rec-

tronic Records.” Audiotape of paper presented at the 66th Annual meeting of the Society of American Archivists, Birmingham, Ala. August 2002.

Kowlowitz, Alan S. “Playing the Electronic Angles and Digital Seams, the Challenges and Opportunities State Electronic Government Initiatives Present to State Archival and Records Management Programs.” In *Selective Approaches for Managing Electronic Records and Archives*, edited by Bruce W. Dearstyne, 89-108. Lanham, Md.: Scarecrow Press, 2002.

Levy, David M. “Fixed or Fluid? Document Stability and the New Media.” *Proceedings of the 1994 ACM European Conference on Hypermedia Technology*. ACM Press, 1996, 24-31.

_____. *Scrolling Forward: Making Sense of Documents in The Digital Age*. New York: Arcade Publishing, 2001.

Lynch, Clifford. “The Integrity of Digital Information: Mechanics and Definitional Issues”. *Journal of the American Society for Information Science* (December 1994): 738-744.

McInness, Sally. “Electronic Records: The New Archival Frontier?” *Journal of the Society of Archivists* 19 (1998): 211-20.

McRanor, Shauna. “A Critical Analysis of Intrinsic Value.” *American Archivist* 52 (Fall 1996): 400-11.

Menne-Haritz, Angelika and Nils Brubach. “The Intrinsic Value of Library and Archive Material.” *Microform and Imaging Review* 29 (Summer 2000): 79-95.

Miller, Jason. “Digital Records Swamp NARA.” *Government Computer News*, February 10, 2003. www.gcn.com/22_3/news/21096-1.html

Miller, Michael L. “Chairman’s Comments From the Session on Intrinsic Value.” Audiotape of comments presented at the 66th Annual meeting of the Society of American Archivists, Birmingham, Ala. August 2002.

_____. “Is the Past Prologue? Appraisal and the New Technologies.” *Archives and Museum Informatics Technical Report #13. Archival Management of Electronic Records*. 1991: 14-24.

Milton, Mary Rawlings. “Electronic Records and the Law: Causing the Federal Records Program to Implode?” Ph.D. diss., Virginia Polytechnic Institute and State University, 2000.

<http://scholar.lib.vt.edu/theses/available/etd-04202000-1340008/>

National Archives Records Administration. *Intrinsic Value In Archival Material*. Staff Information Paper Number 21. Washington, D.C.: 1982. www.archives.gov/research_room/alic/reference_desk/archives_resources/archival_material_intrinsic_value.html.

O’Toole, James M. “Do Not Fold Spindle or Mutilate: *Double Fold* and the Attack on Libraries.” *American Archivist* 64 (Fall/Winter 2001): 385-93.

_____. “On the Idea of Permanence.” *American Archivist* 52 (Winter 1989): 10-25.

Bearman, David. "Archival Methods." Pittsburgh: Archives and Museum Informatics, 1989. www.archimuse.com/publishing/archival_methods.

_____. "Archival Strategies." *American Archivist* (Fall 1995): 381-413.

Bellardo, Lewis J. and Lynn Lady Bellardo. *A Glossary for Archivists, Manuscript Curators and Record Managers*. Chicago: The Society of American Archivists, 1992.

Conway, Paul. "Preservation in the Digital World." Washington, D. C: Commission on Preservation and Access, 1996.

www.clir.org/pubs/reports/conway2/index.html

Cook, Terry. "Electronic Records, Paper Minds: The Revolution in Information Management and Archives in the Post Custodial and Post Modernist Era." *Archives & Manuscripts* 22 (November 1994): 301-321.

Cox, Richard. "Why Records Are Important in the Information Age." *Records Management Quarterly*, January 1998: 36-49.

Daniels, Maygene. "Intrinsic Value, Archival Education and Irrelevancy". Audiotape of paper presented at the 66th annual meeting of the Society of American Archivists, Birmingham, Ala. August 2002.

Dollar, Charles. *Authentic Long Term Records: Strategies for Long Term Access*. Chicago: Cohasset Associates, 2000.

_____. *Archival Theory and Information Technologies: The Impact of Information Technologies on Archival Principles and Methods*. Macerata, Italy: University of Macerata, 1992.

Duranti, Luciana. "The Concept of Appraisal and Archival Theory." *American Archivist* 57 (Spring 1994): 328-44.

Eastwood, Terry. *Appraisal Task Force Report, The Long Term Preservation of Authentic Electronic Records. Findings of the InterPARES Project, Part Two, Choosing to Preserve: The Selection of Electronic Records*. PDF file, www.interpares.org/book/index.cfm, n. d.

Fishbein, Meyer H. "The Traditional Archivist and the Appraisal of Machine Readable Records." In *Archivists and Machine Readable Records*, edited by Carolyn L. Geda, Eric W. Austin, and Francis X. Blouin, Jr., 56-61. Chicago: Society of American Archivists, 1980.

Ham, F. Gerald. *Selecting and Appraising Archives and Manuscripts*. Chicago: Society of American Archivists, 1993.

Hedstrom, Margaret. "The Digital Preservation Agenda." In *The State of Digital Preservation: An International Perspective. Conference Proceedings, April 24-25, 2002*, 32-7.

_____. "Electronic Archives: Integrity and Access in the Network Environment." *American Archivist* 58 (Summer 1995): 312-24.

Henry, Linda J. "Schellenberg in Cyberspace." *American Archivist* 61 (Fall 1998): 309-27.

Hunter, Gregory S. "The Archival Hedge: Intrinsic Value and Elec-

ords, the states mimicked the federal definition written for traditional records; this definition is inclusive of electronically produced information. In order to treat electronic records similarly to traditional records, all of the definitions included the declaration "regardless of physical form or characteristics."⁵¹ For example, one state defines a "public record" as: "all documents, papers, letters, maps, books, photographs, films, sound recordings, magnetic or other tapes, electronic data-processing records, artifacts, or other documentary material, regardless of physical form or characteristics, made or received pursuant to law or ordinance in connection with the transaction of public business by any agency of [state] government or its subdivisions."

In lumping electronic records with traditional materials in the legal definition, the potential to apply traditional appraisal techniques, including intrinsic value, remains viable. In addition to maintaining the standard legal definition of a record, Agency 1 revealed that its state legislature has passed a law allowing a record to remain in the digital format. A stipulation of this law states that these records must be maintained by the originating agency in standard information formats that can be easily migrated. Similarly, legislation was in place encouraging record managers at Agency 5 to maintain records in digital form if created digitally. The agency had the right to migrate it to an analog format if deemed necessary for preservation purposes. Agency 8 reported that all electronic records were eligible to be maintained in electronic format, with the exception of land deeds, which must be maintained on paper.

Additionally, it was expected that electronic signature laws and e-government would soon impact the agency's program.⁵² The records manager at Agency 7 stated that no state legislation directly affecting the management of electronic records had been enacted as yet; however, a bill potentially affecting the preservation of email was under consideration.

As discussed earlier, legal challenges at the federal level have stressed the importance of original record formats, which indirectly legitimized the application of intrinsic value. Therefore, an attempt was made to determine if the federal cases had any impact upon the state record agencies or if any legal decisions at the state level have had similar effects. On this point, none of the interviews revealed any litigation at the state level along the lines of *Armstrong v. Executive Office of the President* that might influence the adoption of procedures to protect the original data of the records.⁵³

Identifying Intrinsic Elements in State Records

The state records professionals interviewed do not presently appraise electronic records for their intrinsic value. The majority of electronic records is earmarked for retention by the state records agencies because of other value

considerations, mostly evidential, legal, or administrative. The opportunity to apply intrinsic value is nevertheless still practical, even in the wake of recent arguments calling for the abandonment of traditional appraisal in favor of a macro-appraisal method. Every agency possesses some records whose value could be degraded if their original bits are not secured. Moreover, these agencies still consider use an important factor and continue to think about value during appraisal of electronic records. When evaluating any type of record, Agency 9 considers whether it is a “hot topic” in which researchers will be interested. Historical research value is also considered important to both Agencies 2 and 7. This action follows the practice established by earlier archivists working with electronic or, as known at that time, machine-readable records.⁵⁴

When thinking about the value of future historical research, some information already being collected at the state level could be considered for its intrinsic value using the NARS guidelines. The governors’ web sites are one example. They could meet any one of several criteria as defined by NARS, including “direct association with historically significant people,” “physical form that may be the subject for study,” “value for use in exhibits,” and “aesthetic or artistic quality.” Citing the increasing technological maturity of recent executive-level web sites, three of the records professionals interviewed said that these web sites contain important historical as well as evidential information in governmental reports made available through the sites. In two of the three instances where an attempt was made to archive a governor’s web site, only screen-shot images were retained. The depth that archivists mined for relevant information has been limited as well, and only pages within the confines of the site were archived. This procedure provided a technically secure version for future use; however, without the original HTML, the interactivity of the original is lost. To what degree that this procedure affects the ability of researchers that use this information has yet to be determined.

Government correspondence is commonly archived in paper form, so it comes as no surprise that email is beginning to show up in state records collections. These email messages may also meet some of the intrinsic value considerations, especially those that document “the formulation of policy at the highest executive levels when the policy has significance and broad effect throughout or beyond the agency or institution” and those that might have “questionable authenticity, date, author, or other characteristic that is significant and ascertainable by physical examination.”⁵⁵ Similar to the web sites, email produced by the state governor is one of the first types of electronic records accessioned. In Agencies 3 and 4, the first sets of electronic records accessioned have been executive-level email. As with other types of born-digital records, the best practices regarding the long-term preservation of email are still being determined at the state level.

Appendix A

Interview Protocol

- How long has the state been archiving electronic documents?
- What is the size of your electronic holdings?
- What types of electronic documents are archived?
- At what level (series, record group, item, etc.) are decisions usually made about archiving electronic records?
- Are there legal issues that influence what electronic information you archive?
- On a larger scale, what are the key factors that go into determining if information in electronic form should be archived?
- What kind of contextual information found in electronic documents is preserved when a document is archived?
- To what degree are links or attachments archived?
- In what form are electronic documents received in your archive?
- Do you print out any electronic information to preserve it? How much?
- Do you feel that this has any impact on the value of the information?
- In your opinion, does this affect the integrity or authenticity?
- What happens to the original file?
- Do you migrate documents to preserve them?
- What format are they migrated to? (Same as original, paper, microfilm, other electronic format.)
- What changes occur to electronic information during this process? How is this documented?
- In your opinion, does migration affect the integrity or authenticity of a document?
- If migrated to another format, are the electronic documents also retained in their original formats after migration? Explain why or why not.
- Do you archive copies of original software used to create the electronic documents stored in your archive?
- Presently, are you considering different ways to archive electronic information? If yes, what are the reasons behind your investigation?
- Have researcher accessed electronic holdings from your archive?

Works Cited

Armstrong v Executive Office of the President, 810 F. Supp. 335 (U.S. Dist). Lexis-Nexis.

Baker, Kathryn Hammond. “The Business of Government and the Future of Government Archives.” *American Archivist* (Spring 1997): 234-52.

Several issues remain unclear from this study and need further investigation. These include how new records management approaches such as macro-appraisal will affect the retention of historically valuable materials that researchers will need in order to effectively write histories of present-day events, institutions, and people. Furthermore, there is the question of how the division between records agencies, some employing noncustodial practices, and archives is affecting which materials are preserved. Since this study's scope was intentionally small, a more complete survey of state archives and record agency practices would be useful, including how these agencies work together to manage digitally produced information. Additionally, when considering the limited number of records presently in the custody of these institutions and the amount of electronic information being produced, a future study considering intrinsic value should reveal how effective archival strategies are in reducing costs and meeting legal obligations while meeting the evidential and informational needs of users.

Over the years, several archival theorists and practitioners have considered the application of intrinsic value. As recently as 2001, James M. O'Toole, responding to Nicholson Baker's assault on the appraisal and preservation practices of librarians [and archivists] for their paper collections, called for "a great deal more study on intrinsic value, especially in archival collections."⁶¹ Because the extent and impact of electronic records on collections have yet to be fully realized, it is not unreasonable to think that the traditional material of yesterday that sparked their present debate could soon be extended to a debate over the loss of important born-digital material. In order to reduce this likelihood, there is the need for additional work to be done in applying traditional as well as newer archival techniques to electronic records. Whether these or other possibly undiscovered practices provide the answer does not matter. Instead, there should be an effort towards preventing future criticism of the profession by finding practical means of electronic media preservation that balance keeping the right documents with costs of preservation. Like other institutions, state archives will need the support of researchers, practitioners from other fields including information technology, and each other to accomplish these tasks. Finally, patrons, legislators, and the public need to be better educated on the problems associated with digital information management and the important, yet difficult, role that records managers and archivists have in appraising and preserving these records. Until then, funding will remain slim, and the potential for harsh judgment by future Nicholson Bakers and an unrealistic public will remain a distinct possibility.

Preservation and Migration Issues

At present, several agencies interviewed maintain electronic records in their native formats. In no instance, however, did the goals of the agencies include the long-term retention of documents in their native formats. Most follow practices similar to Agency 9, which takes electronic information in native formats as long as it can be read by hardware and software available to the agency. If potential problems are identified or records in their original formats will soon be unreadable by existing hardware and software, the records are migrated.

Successful migration is accomplished when the basic elements of structure, content, or context are preserved. Successful conversion meets these requirements as well.⁵⁶ While taking into consideration the content and context of a migrated record, the amount of structure actually maintained depends on how the record is migrated or converted. Agency 3 reported that it is very selective on what it actually accessions and will immediately convert files to formats supported in the facility. For example, a recent group of email accessioned by this agency was immediately converted from MS Exchange to MS Outlook, because MS Exchange was not available in the records agency. Agency 8 began accessioning only just last year, but will soon not be accepting any digital information in proprietary formats. In lieu of migration, Agencies 6 and 2 convert their electronic records to microfilm or paper when any information is deemed important for long-term preservation. The use of analog representations of original electronic files is accepted at all agencies interviewed for this research. The degree of preference is variable depending on the agency. For example, Agencies 3, 5, and 8 accept paper printouts of originally digital information but prefer to keep it in the electronic form. Other agencies, such as 2 and 6, prefer retaining microfilm versions of records over the native formats.

In order to reduce the costs of migration, nonproprietary formats are being explored for use at state agencies. XML, for example, is not presently being utilized at any of the agencies; however, Agency 3 is considering it as the front-runner to solve issues of migration and software stability. Adobe PDF-A, a proprietary format that can be used to read any PDF document independent of the date created, is being explored for implementation at one agency.

Impact on Researchers

None of the state records agencies knew of research being conducted using any of the electronic holdings in their possession. Therefore, it is logical to conclude that the limited holdings and the relative newness of the information prevent the majority of these records from being pursued by historians or other researchers at present. The lack of access is also related to limited exposure

through traditional publication systems such as public access catalogs and finding aids. For example, it was noted by Agency 9 that although it did not have electronic finding aids for any of its holdings, this problem would be rectified once the installation of a new system was complete. In other instances, agencies with public access catalogs had not added these files to their system. Agency 3 added bibliographic records for its recently accessioned email to its public access system, yet no requests have been made. Overall, the impact of electronic information on researchers is not significant at this time, and concerns have not been voiced about the availability of the original files.

Cost

The recent economic downturn has affected state governments nationwide. All of the records managers interviewed admitted that their budgets have been affected, some more seriously than others. For instance, Agency 5 has half the staff of two years ago, while the director at Agency 4 is unable to fill a present vacancy for an electronic records professional due to budgetary constraints. Additionally, the three noncustodial records agencies are not accessioning electronic records, at least partly because of financial constraints not tied to the current state budget woes. Instead, they have been already having to do “much more with much less” and adopted postcustodial techniques to cope.⁵⁷ Agency 7 is part of a state system where the information technology group is adequately funded, while the records management program receives less attention and funding.⁵⁸

Limitations of Study

The strict division between archives and records agencies in some states, coupled with the relative newness of the electronic records phenomenon, created a conundrum for this pilot study. Because state records managers work closely with retention schedules requiring strict limitations on retention times, many records do not qualify for long-term preservation after the legal or administrative functions have been exhausted. Those records that could qualify for permanent preservation based on their intrinsic value are delegated to long-term storage in the state archives rather than the state records center, thereby distancing the records from likely users.

Due to time constraints, eight of the nine interviews were conducted with records professionals only, and their knowledge of digital collections that might be in archives was limited. While this did not preclude the investigation into the appraisal of intrinsic value and electronic records by state agencies, future studies could involve interviews with archivists as well as records managers to expand the data and address divisions between records centers and archives.⁵⁹

Conclusion

This pilot study has shown that intrinsic value and electronic records are not incompatible. Recent literature, critical of appraisal strategies that assign value to electronic records, does not appear to have greatly altered appraisal at the state level. It is evident that macro-appraisal strategies are being implemented to various degrees in the states; however, it also apparent that appraising for historical value still remains an important part of what archivists and records professionals do.

In addition to revealing appraisal approaches at the state level, this pilot study uncovered other challenges to preservation of electronic records that need to be addressed. These include reducing the cost of long-term preservation of electronic records, determining the needs of future researchers, and preparing for potential future legal and legislative actions similar to those at the federal and state level in the wake of expanded e-government. Intrinsic value is not a panacea to these issues; however, it could prove to be a valuable tool in each of these areas. For example, predicting what future researchers will need remains a difficult but necessary function of appraisal. Considering their intrinsic value is one way that archivists and records managers can preserve pertinent information that might otherwise be lost. This study has shown that the application of intrinsic value is not intended to be exclusive of other forms of appraisal. Instead, it is applied to complement other appraisal criteria and serves best as a safety net, preventing the loss of records considered to have long-term value in their original format. Furthermore, intrinsic value is useful in reducing costs related to saving the original digital information by helping to select only those records where it is necessary to preserve the original electronic bits. Other, less essential records could be immediately converted from digital to less expensive formats. Lastly, preserving the original bits of a record's native format also addresses potential legal issues where a truly complete, unadulterated record is required.

Although planning for the influx of electronic records has been ongoing for a number of years at the state level, the interviews revealed that these formats have yet to be widely accessioned at the state level. The records professionals interviewed are still grappling with the best ways to approach long-term preservation of electronic records, and limitations are being placed on the amount of digital information that falls directly into their custody. As far as appraisal approaches at the state level are concerned, the “media neutral” approach to electronic records was the most conducive environment in which to apply intrinsic value. This approach enables the records professional or archivist to treat digitally produced information the same as traditionally archived material. If defined as “media neutral,” email is treated as correspondence, and a web site is considered an artifact of the agency that produced it.⁶⁰