

## A Bridge to the Future: Committing Intentional Acts of Memory

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### ABSTRACT

Popular culture views archivists as the keepers of old things. Archivists have a cultural mandate to preserve the historical record, but how we fulfill that mandate must change. Given the ephemeral nature of electronic records, we must shift our focus from records of the past. What of the present needs to be remembered for future users? Archivists must preserve those materials that will be a bridge from the future to the past.

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In the title, the bridge connects the present to the future, but it doesn't mention the thing that concerns us. What is the chasm the bridge spans?

### *The Chasm*

From my perspective, the chasm separating us from the future is the challenge of electronic records. I'm not thinking of digitized records that we've created to get our born-analog materials online. I'm talking primarily about born-digital records, especially those that will never see paper.

Recently I heard Bob Horton, the Minnesota State Archivist, make a similar observation.

We have collectively experienced a technological revolution in the past decade. . . . We have not experienced the corresponding and overdue institutional and professional revolution that is the appropriate and necessary response.

And, the Society of American Archivists' Council has identified electronic records as a top strategic priority.

The rapid, widespread adoption of information technologies has caused a shift in the fundamental nature of records and has changed the way records are used. If archivists do not master the knowledge of this new environment and transform current practices to properly manage and provide access to electronic records, the profession may become as obsolete as paper.

This isn't a particularly rosy vision of the future.

When I talk to archivists around the country, I often sense that many are not aware of the portentous times we live in. Some look at electronic records as something in the future. Some are aware of the problem, but not doing anything about it. Others hope to retire before they have to worry about the problem.

Those attitudes are understandable because many of those archivists are working in repositories that are not yet receiving electronic records. You may not have any e-records in your collections now. But, I would wager that the vast majority of records being created today that you will want to acquire – or that your successors will want to acquire – are in electronic format. My perspective may be different because I work in an agency that is trying to help get some control over the electronic records of archival value that are currently in active use in the agencies.

But the challenges of electronic records are here and now. Some archivists have been trying to get the profession to pay attention to e-records for years, but – as Bob noted – the problem continues to grow faster than our response.

I think that most archivists are aware of the basic problems of preserving electronic records, so I won't detail them again here. I'll point to two major issues.

- + First, rapid changes in hardware and software mean that e-records are fundamentally unstable. Paper, stored in a reasonable environment, remains readable for decades.

- + Second, that instability is an inherent characteristic of e-records and will require an iterative, on-going preservation program. Heretofore, preservation was generally a one-shot project to stabilize the materials. For example, we filmed acidic newspapers or duped nitrate negatives, and the copies lasted for decades.

We can solve problems of preservation. In fact, I think preservation problems are, in some ways, easy because they have a technical solution. The more difficult problems have to do with human behaviors and attitudes. For example, a more subtle and easily missed problem is hiding in the shift from 'record' to 'information' in discourse. 'Record' is old hat. It brings to mind green eye shades, folios bound in red leather, a 'fair, round hand', and the d-word – dusty. 'Information' is the wave of the future. It's new, sexy, fast, and promises a quick buck.

I don't like the stereotypes, but the problem is more than perception and professional pride. In my mind, the seemingly trivial difference between 'record' and 'information' masks a significant problem. I fear our profession may bear some of the blame because we – the very ones who should be best suited to do so – failed to clearly explain the importance of the difference between 'record' and 'information'.

In the introduction to my glossary, I note:

Language is largely transparent. Words surround us like air, and we are usually oblivious to them. Only when there is some disturbance do we take notice. Words are so familiar that most people would be hard-pressed to define them with any precision.<sup>1</sup>

For archivists, the same is true of records. Records are so familiar that we do not really know them; we take them for granted.

Whenever I get the chance to speak to a group of archivists, I like to ask them a simple question that I think they should be able to answer quickly and easily. What are the distinguishing characteristics of a record? Mind you, before I started working on the glossary, I couldn't have done a good job answering the question myself. So, I'll challenge you to think for a moment, What is a record? And in particular, How does it differ from information?

I suspect that many of you, answering this question in your head, immediately think of specific examples of records: deeds and other instruments that are recorded at the county courthouse; official copies of documents; evidence of some transaction. Some of you may think of letters, diaries, and snapshots, although some archivists distinguish 'records' from 'personal papers'. 'Record' has been used so carelessly that it's hard to find a definition that captures its essence. Here's how I define it personally.<sup>2</sup> *Information that has been fixed on some medium and is valued as evidence of the past.*

Many ideas we commonly associate with records are missing from this definition. The mantra 'content, context, and structure' is nowhere to be found. There's no reference to authenticity or reliability. There's no requirement of a transaction or that the record be official in nature. The definition does not require that the record be preserved or set aside for future reference; the definition allows something to become a record as circumstances change. However this simple definition emphasizes the difference between information and a record.

A record is fixed information. The information in a record is stable and resists change. The whole purpose of a record is to preserve information in a form that is trustworthy. We want the confidence of knowing that a property owner's name on a deed doesn't change, but remains the same as when ownership was transferred. That when you check your marriage license, you don't suddenly have a new spouse.

The definition is fundamentally functional. Most definitions of public records emphasize format, but my definition emphasizes use. To be a record, it must be useful as evidence of the past. So the deed is evidence of purchasing property and the marriage license of some union of

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<sup>1</sup> Robert Horton. Paper presented at a panel on the 20th Anniversary of the independence of the National Archives and Records Administration (Washington, DC, 20 May 2005).

<sup>2</sup> Note that the glossary includes many other definitions because it is descriptive, rather than prescriptive.

two people. What of a novel, like *1984*? Because it is fiction, rather than a history of past events, because the wars of Eurasia, Eastasia, and Oceania never existed, it is not a record. But, if we use the book as evidence of Orwell's creativity or of the cultural climate of the late 1940s, it has value as a record.

The fact that so many archivists have trouble defining 'record' exemplifies a stumbling block that I find personally very annoying. It's one facet of the chasm that is internal and attitudinal, rather than external. It's a part of the chasm we're responsible for. Over the years, I've met archivists who are not particularly interested in records as records. They are primarily focused on the content of the records and generally uninterested in the records as carriers of that content. They are, in fact, historians first and archivists second. They are passionate about the events and individuals in the records, but may be bored by the principles that underlie archival description, the ethics and legalities of reference, or the theories of appraisal. And, they may be so focused on the historical value of records that they fail to recognize how other disciplines value and use records. The records of *Zublake v. Warburg*<sup>3</sup> are a rich source of information on sexual discrimination in the context of an international, multicultural organization. But would they recognize the distinguishing importance of the records because of the legal precedence of admissibility, discovery, and production of records during trial (and later in someone's archives) this case set?

I'm certainly not talking about all archivists. Plenty of excellent historians are also excellent archivists, and all archivists need some knowledge of history. Nor am I trying to divorce history and archives. But the two professions are sometimes so closely aligned that we forget there are other skills we need besides history. In making what some will find a provocative statement, I am trying to emphasize that archivists and historians do different jobs and need different skills and I am challenging all of us to reflect on the differences between the disciplines. Many of us are required to wear different hats, but we must always be conscious of which hat we are wearing. And, I would argue, as archivists we must be most comfortable in their archival hat.

## THE VISION

To sum up, I see three major aspects to the chasm.

- + Electronic records are fragile and place exceptional demands for innovation and money on our preservation programs.
- + We are often in denial about the problem. We take comfort by telling ourselves the problem is in the future, when in fact it's been growing for years.
- + Archivists have allowed themselves to fall into comfortable routines and assumptions about their jobs at a time when records – the heart of the profession – are undergoing a radical change. In fact, we have let ourselves become a bit dusty. Or, we lose focus as administrator records who offer services to others and be distracted by becoming consumers of those services.

Note that I don't want to sound high and mighty here. I use the first person here to include myself because I'm all too human and can fall into these traps.

Nor do I want to sound like all is doom and gloom. I've been talking about the chasm, and if we liked the chasm we wouldn't necessarily need or want a bridge. As we look across the chasm, the far horizon depends on the bridge we build, on how we respond.

One destination is oblivion. We can do nothing, and time will push us into the chasm.

However, I believe that while the chasm is deep, it is not insurmountable. I can see a very different destination, an attractive place where we want to go. Many are already hard at work, so I am optimistic about the future. I can see a future where archivists' skills and knowledge have a vital, respected role in building information systems that create trustworthy records. I see a time

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<sup>3</sup> *Laura Zublake v. UBS Warburg LLC, UBS Warburg, UBS AG*: Opinion and Order 02 Civ. 1243 (SAS)," (U.S. District Court, Southern District of New York, 22 October 2003).

when we can ensure that the future has records that contain the information it needs. I see us helping people navigate and interpret massive quantities of records to protect their rights and serve their interests. I see us fulfilling a cultural mandate to preserve authentic, reliable memories.

In some ways, the future is not too different from the present. I believe that *what* we do will remain fundamentally the same. However in other ways that future may not be readily recognizable because *how* those things are done has changed radically.

## THE BRIDGE

So how do we get to that future? How do we build a bridge across the chasm? I can tell you we're going to have to work without a blueprint and sometimes in the dark. We don't know exactly what the bridge will look like.

We start building. We build what we can today. We'll sometimes have to tear down and start over. We will make mistakes. We run the risk of failure. But if we know anything: doing nothing assures failure.

The path to that future is the process of rethinking how we do our job. We must reengineer the profession. This is not merely a matter of using technology to help us do the same thing faster or cheaper. It means rethinking the purpose and the workflow of what we do.

Nor are we starting from scratch. Much of what has been done in the paper environment translates directly into a digital environment. I have never seen a problem in digital records that doesn't have an analogous problem in the paper environment. But often, that work was not seen as important, was seen as too theoretical, or maybe just too much work. We need to fully understand our profession's past so that we know how to adapt it, rather than reinvent it.

There's a story – possibly apocryphal – of a tool company that made drill bits. They continued to make bits better and cheaper. But they failed to survive because another company found a way to use lasers to do the job better and cheaper still – and without bits. The new company realized that the real business wasn't in drill bits, but in *holes*. Archivists must carefully consider the business we're in. Records? The past? Or something else?

## *Foundations*

The most important part of a bridge is its foundation. For archivists, I think that means we must find the new paradigms of archives and recordkeeping in the digital era. We have a strong understanding of the core archival concepts. We must be able to quickly and clearly define and explain the value of records. And we must do that in terms that others understand. We must also be able to talk fluently about the notions of authenticity, reliability, copy, fixity, document, evidence, value, and a host of other basic concepts of archivy.

This fluency is not something that we can delegate to specialists because, more and more, electronic records are the norm. In the not too distant future, archivists who are familiar with paper records may be the specialists. *All* archivists must have a fundamental understanding of electronic records. E-records must be as familiar as paper records.

When we look at document that's roughly 3½ by 6 inches, has an image on one side and a message on the other, we recognize it as a postcard. We understand that it may be used for correspondence, or as a visual souvenir that functions like a snapshot. When we see a document that's a little narrower and a little longer than normal (8¼ x 11½ -- or to be more precise, 210 x 297 mm) we might guess that it comes from a country that uses the metric standard.

Likewise, when we look in a file and see rows of data that are all the same length, often with significant runs of spaces, there's a good chance we're looking at a table used in a relational database (and we know what a relational database is). If the data is divided by commas or tabs, it may be a CSV file (and we know what CSV stands for). If it's a text file, but the last character

has the high order bit set and there are only occasional control characters that occur in pairs, there's a good chance it's a WordStar file.

Do all archivists need to know all those details? Probably not. And given the many technologies out there, no archivist will ever know them all. We will need specialists.

You likely have some fluency already. Many of you may recognize HTML code used for web pages, even if you can't write it. As you go into an agency to appraise their electronic files you will be looking at the contents of file systems, not file cabinets. Scanning the list of file names, you may be able to distinguish Word (.doc) from Access (.mdb) from Excel (.xls) files. A good start, but you may need to expand your knowledge of data syntax and your vocabulary, especially to work with files on other operating systems.

You'll also need tools to help you out. With paper, we may use a microscope or chemical test to authenticate documents. With photographic negatives, we may use a variety of chemical tests to identify nitrate negatives. In the digital era, you'll use software. Debug is, in many ways, the virtual equivalent of a microscope that allows you to look inside a file. (I'm happy to tell you that Debug, available since DOS 2.1, remains available in Windows XP.)

I'm describing a range of skills here, and I don't know that all archivists need to master them all. Some hold the opinion that archivists don't need to know any of these under-the-hood IT skills any more than a driver needs to know how an engine runs. I think that attitude may be true in the future. But in the first decades of automobiles, drivers often had to be familiar with mechanics or they'd be stranded in the middle of nowhere. Digital systems are nowhere near as robust or mature as modern automobiles.

We'll know the bridge has a strong foundation when all archivists are as comfortable with electronic records as they are with paper records.

### *Appraisal and Acquisition*

How will appraisal change? We must be ever more aggressive in identifying and acquiring records. Because we must capture electronic records when they are 'fresh', we must recognize that the past we are collecting is our present. That means we do not have the perspective of time to know if the records document something important. Rather, we must have a well-articulated rationale that we can justify to the skeptical that what we want *will be* important. I believe documentation planning is a tool to help us do that. It may be seen as a fad from the 1980s, but I think it is more important than ever.

Archivists and records managers have long talked about working with records creators to identify permanently valuable materials soon after they are created. Here is situation where we can take advantage of the difference of digital records. With paper, we had to wait until the creator no longer needed ready access to the record. But with in the digital era, we can acquire a copy of archival records as soon as a transaction is completed. The creator will still have a copy in their system, and the archives can offer a robust, reliable, and trustworthy backup service for essential evidence.

Technologists often want to keep the system live; they talk about system emulation and software migration. As archivists, we can argue that in many instances the programs themselves are not worthy keeping. We do not need the software to re-run the census. Rather, we want the underlying tables so we can use that information for other purposes.

The bridge must be built on a rich and fully-articulated understanding of the records we need to save among the deluge of amorphous digital information. When we get to the other side, archivists will have the knowledge to help design trustworthy recordkeeping systems and to identify valuable record sets based on uses previously unforeseen.

### *Arrangement and Description*

If arrangement is the preservation and perfection of original order, how will we arrange a data warehouse that the creator could sort and filter in infinite combination? If description is based on folder lists that the creator used to facilitate organization and access, how will we describe databases that hold all the records in a single folder?

We know that metadata is an important component of digital description. We must be able to describe the structure of datasets (the original meaning of metadata) to make them meaningful to our patrons. But we must also find ways to help our patrons find relevant records and datasets through descriptive access points (the appropriated meaning of metadata). In many instances, description – assigning rich metadata – is now done at the item level, although traditional archival has been to work in aggregates. Considering the flood of digital records, is the current approach of rich, item-level control a realistic, long-term strategy, or is there value in archival orthodoxy?

Arranging papers is a process of determining the records' filing characteristics and – if they're not in the right place – moving them by hand. You don't move digital records by hand.

On the far horizon, I see archivists who have the technical skills to query and organize information in e-records systems so that patrons can discover the complex interrelationships between

### *Reference and Access*

One of the biggest questions we face is the value of archival reference in the face of full-text Internet search engines. You and I know many responses to that question. Archives hold authentic, reliable evidence, where the Internet is filled with urban legends, falsehoods, and . . . well, let's just stop there.

The biggest challenge may be that our patrons no longer come in our doors. We're losing the reference interview that can help patrons formulate the right question, to help them find the right places to search, understands the limitations of sources, and ensure that the patron is satisfied. Libraries have already begun to develop a solution to this problem: 24 × 7 reference service over the Internet. No, they didn't triple their staffs and force everyone onto rotating shifts. They have cooperative reference. Archivists need to think of similar, creative solutions.

When we get across the bridge, I see patrons who can find the records they need, regardless of which repository holds them. I see patrons who turn to archivists because we help them transform a vague, ill-formed query into understanding and knowledge rich with context.

### *Preservation*

Preservation poses a host of problems. We don't know that we will be able to read Word files in twenty years. Will Office 2025 be fully backwards compatible? If not, will we be able to successfully migrate it through the intervening versions in a way that ensure it remains readable? As I said, I think preservation problems are possibly the easiest to solve because they are technical problems. All things are possible with time and money.

The bridge will include many tools to ensure long-term access to electronic records. In the future, I see well-established best practices for e-records preservation that ensure we will be able to use these fragile materials indefinitely.

### *Outreach*

As I mentioned, money is an issue. All this technology was supposed to save a lot of money. And, technology can save money in the short term. As businesses, governments, historical societies, and universities begin to be confronted with the costs of long-term preservation of digital archives, will we be able to demonstrate the value of those records?

Here, the obvious solution is to define success in terms of having lots of money. I think that's a bit naïve, though. We have never had all the money we needed to do all that we were

asked to do or wanted to do. The bridge must be built in partnership with others who have a stake in preserving records. With their support, both in-kind and financial, the future will include dynamic e-records programs.

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We must recognize that there is no one solution to any of these problems. No magic bullet will take care of every type of record and every situation. There will be many bridges to the future. In fact, a significant aspect of our profession will be in knowing how to design an elegant solution appropriate to a wide range of circumstances.

And, we must not think of technology as either the problem or the enemy. It is the reality. We must adapt to it and take advantage of it. But, we must do that in a way that reflects our particular archival expertise.

## CONCLUSION

To ensure we get to a desirable future, we must work together to build the bridge. We are not starting from scratch. As I noted earlier, many are hard at work on these problems. But all of us must engage and do our part. We must identify and acquire the records at greatest risk. We must find ways to contextualize the records for our patrons and help them use the records. We must find ways to preserve the records for the long-haul, and we must find the resources and institutional support to do that.

We must work together. Many hands make for light loads. Much of what works for one archives can be adapted to another. And we must collaborate with others outside archives. Libraries and records managers are also struggling with electronic information, and that work can be shared among the disciplines. Much important research is done by computer scientists and information technologists. We cannot treat them as the enemy but form alliances with them.

First, we must rethink our understanding of core archival functions in the digital era. I have to tell you that while building the bridge may be hard work, it is interesting work. The glossary project grew out of a need to find a common language between information technologists, records professionals, and others struggling to work together. As I researched the literature and studied the concepts in depth, I learned an enormous amount.

We must make continuing professional education part of our every day routine, and keeping a good book about archives on your nightstand is a good start. I'd like to recommend a few I ran into during my glossary research.

David Levy's *Scrolling Forward* is one of my favorite books. I think he does a particularly eloquent job reflecting on the nature of records, information, and the interaction between humans and technology. David's personal knowledge of calligraphy, bookbinding, and the humanities, coupled with his expertise in computers, gives him particular authority to speak on this subject.

*The Myth of the Paperless Office* is another book that focuses on the carrier rather than the content of records. The authors argue that in the same way digital documents have some very wonderful functions that distinguish them from paper, tangible, paper documents also have some very wonderful functions that, in some contexts, make them superior to their digital equivalents.

Steven Levy's *Crypto: How the Code Rebels Beat the Government – Saving Privacy in the Digital Age* reads like a mystery novel. Neal Stephenson's *Cryptonomicon* is a novel, but includes some excellent explanations of the importance of digital signatures and puts them in a historical context.

Joanne Yates' *Control Through Communication* is a great read that can introduce you to the significance of records and the impact of technology – telegraphs – that survives in modern business culture.

Luciana Duranti's *Diplomatics: New Uses for an Old Science* helped me think about records in an entirely new way. It's dense and the concepts are complex, but I think it's worth the work.

Second, we must immediately start collecting digital materials to test practical applications of our new knowledge. The journey of a thousand miles begins with a single step, and your digital archives will begin with the accession of a digital collection. Treat it as you would a paper collection, and learn where your current processes must be tweaked.

Finally, we must always keep in mind what archives are about. We are the custodians of memory. At the University of Texas, Harry Ransom was a bit of a renegade because he collected authors' draft manuscripts. He believed those versions provided invaluable insight into the final work. Today, many authors use word processors; each time they hit save, something is lost. Word tells me that there were more than fifty revisions of this paper. What would Harry Ransom have to collect today?

As archivists, we know that not everything needs to be saved. But, we also know that conscious decisions about what is important can help us remember what truly matters. The challenge of electronic records is incremental amnesia. As custodians of memory, we must create the record of the present for the future by committing intentional acts of memory and become activists by teaching others to do the same.