What if the world lost its memory?:; [Final Edition]

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Abstract (Summary)

Luciana Duranti, chair of archival studies at the University of B.C.'s School of Library, Archival and Information Studies, is leading the world's largest effort to preserve an authentic digital record of our times.

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Photo: Darin Dueck, for the province / UBC archivist Luciana Duranti heads a project that is setting guidelines for preserving electronic records -- which now account for most of the world's documents.

Full Text (1188 words)

Experts scramble to preserve digital records from irretrievable loss

The global archive -- all those trillions of bits and bytes dutifully cached away since the dawn of the Digital Age 50 years ago -- is leaking like a sieve, says the world's leading cyber librarian.

Luciana Duranti, chair of archival studies at the University of B.C.'s School of Library, Archival and Information Studies, is leading the world's largest effort to preserve an authentic digital record of our times.

Alas, she says, every day something else is irretrievably lost.

The research records of the U.S. Marines for the past 25 years? Gone.

East German land-survey records vital to the reunification of Germany? Toast.

A piece of digital interactive music recorded by Canadian composer Keith Hamel just eight years ago?

"Inaccessible, over, finito," says Duranti, educated in her native Italy and a UBC prof since 1987.

Duranti, director of InterPARES (International Research on Permanent Authentic Records in Electronic Systems), an international cyber-preservation project comprising 20 countries and 60 global archivists, says original documentation is a thing of the past.

Today, she explains, forms have been replaced with files, hard copy with software. Every time a file -- anything from a personal photograph to government document -- is opened, it is overwritten and changed, the integrity and authenticity of the original eroded with each new keystroke.

We asked Duranti for her take on the state of our global archive . . .

Q: Say, hypothetically, the sun releases a catastrophic solar flare or cyber-terrorists unleash a global virus and every hard drive on the planet is wiped . . . would we be sunk as a civilization?

A: Yes. To begin, all the corporations would disappear. We used to live very well without records because we had other systems . . . oral memory and oral traditions and sacred rituals by means of which we passed the knowledge of the past to the next generation. But today we totally rely on our digital records.

Q: How are we losing things? What is happening to the record?

A: If one keeps the material live within the system, things are not lost -- because as you upgrade the system, the records are regularly upgraded.

The problem happens when you take the records out of the system, and you store them in floppy disk, in the CD, in the DVD or whatever and you go and pick it up two years later and you can't read them any more. The problem too is that in the process of upgrading your records, the format gets screwed up. Let's say you have an Excel file with columns and rows and the data starts shifting, or you have maps and the colours change -- if all the message is in the colour, you have problems.

Q: Super-8, VHS, DV-Tape, Memory Stick . . . how will we be preserving personal records of our brief passing in five years? In 20? In 100?

A: The technology is becoming more and more user-friendly. I hope that we will be increasingly aware of the risk of losing it all and that it will become a normal practice to back up everything everyday, to upgrade your computer every two years, three at the maximum.

Q: In 1998, you were working with the Pentagon. What were you up to?

A: As soon as the computer appeared on the desk, everybody became totally autonomous and independent. That means you have no control of the records of an organization.

In this case, the research records of the marines for the past 25 years are gone, the records of the navy in the United States, gone.

They came to us because they were desperate. We spent three years and we designed their system, the system of the Pentagon, and that became the standard for the United States.

Q: China has already adopted InterPARES authenticity protocols as law. What are these protocols?

A: These protocols are very simple. They state that all the attributes of the record must be linked permanently to the record.

There are rules about the identity and the integrity of the record. And then there are rules about procedures for controlling both the creation of the records and their maintenance through time.

Q: Prior to the digital age, which culture or civilization kept the best record of its passing and how did they go about preserving that record?

A: With traditional records, probably the best record-keeping system was the German one. They had the registry system which, for reasons of accountability, records the data of every record ever generated, coming in and going out. That information is preserved forever and totally controlled.

Naturally, before then, the Sumerian archives 4,000 years before Christ. Clay tablets, the perfect classification system!

Q: I've just uploaded my entire

collection of digital images to a remote server as backup for safe keeping. Is this a good idea?

A: It's a very good idea. One of the best ways of preserving digital records is disseminating them. The more copies there are, the harder it is to get rid of them.

Q: You say that to preserve something for prosperity, you must transfer it to new technology every three to five years. But you have also raised the question of the authenticity of copies of copies. What do you mean by this?

A: Traditionally, we verified the authenticity of a record on the record itself -- we checked the ink, the paper, the signature. But we no longer have the original records. What we have is copies of copies of copies of copies.

There are two ways to verify -- keep records in systems that are so controlled that one can presume that the record is authentic because no one has access to them who was not authorized; the other way is to have a second record somewhere else for comparison.

Q: What is UNESCO's Memory of the World Program you work with?

A: In the developing world, even if people don't have the technology and the resources to create

their own digital records, they do receive digital records from everyone else.

Their main concern is that the translation, if you will, is never accurate because the concepts are

never the same and it isn't right for their specific legal and social environment.

This is a program that helps them . . . archive their own cultures.

Q: What about our own cultural records?

A: We have to be proactive, not just react -- the moment I see somebody come to prominence, I would directly address this person and say, "What do you do with your digital records? How do you generate them?"

Especially with artists. Most artists have no interest in it. They don't care. They just say, 'I just want it to be seen now, who cares 10 years from now.'

Ten years later, when they change their opinion, it will be too late.

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[Illustration]
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