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Op-Ed-Opinions and Editorials-Devil's Advocate-Macropreservation of the Human Record

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Devil's Advocate — Macropreservation of the Human Record

by **Robert Molyneux** (Assistant Professor, University of South Carolina, School of Library & Information Science) <drdata@molyneux.com>

In my last column, I discussed the libraries of Science Fiction. One reason to study these libraries is to see if writers of futuristic fiction have any insights into what future libraries will be like. There was one such future library I wish to return to, and that is Memory Alpha in Star Trek's *Lights of Zetar*.¹ That library was the repository of the United Federation of Planets' members, and it was built in an out-of-the-way part of space. I discussed this library in terms of a backup of the knowledge of these members. In that future, the United Federation had considered the question of macropreservation: how to preserve the corpus of the output of the Federation's species. I contrast this term with micropreservation—the preservation of individual works.

What about macropreservation of the human record?

The human record is fragile and most librarians have read or thought about libraries and war and how poorly libraries fare in war. Libraries are a part of our genetic makeup: we are a species which remembers and institutions which perform the library function—libraries, museums, archives, and such, preserve materials in different formats. They do more, of course, but these institutions make it possible for us to remember and are the central agencies of a civilization. But, while the library function is one of the highest and most selfless acts humans perform, the institutions which do this function are particularly susceptible to our lowest acts.

I suspect every library school student has heard the conflicting theories about what happened to the library at **Alexandria** and other sagas of libraries and war are not hard to find. I recently read a nice Masters' paper by **Penelope Hamlin** from UNC's School of Library and Information Science called *Alexandria's Ashes: War and the Loss of Libraries*,² for instance, and she, among the several libraries she discusses, has an account of the destruction of the **National Library of Bosnia** in 1992 as a result of deliberate, systematic shelling by the Serbs. Her account of the heroic efforts to save the collections are compelling. *Stip_evi*,³ has another account that is probably easier to obtain. This library was not the only one destroyed in the twentieth century. *Memory of the World*⁴ is a UNESCO publication which attempts to catalog "libraries and archives destroyed" in that century.

As *Memory of the World* points out, the human record is destroyed by factors other than war. **Calvin Elliker** told me about the story of **King Joao's** music library in Lisbon which was destroyed in the 1755 earthquake. It was the pre-eminent music collection in Europe and consisted of printed monographs and manuscripts. **Cal** did an ingenious paper⁵ at the **University of Illinois** where he concluded that most of the printed books in the **Joao** collection were identifiable in other European libraries but that the manuscripts, which were unique, were lost. The **Hanlin Academy** library in China was destroyed during the Boxer Rebellion as the Chinese rebelled against Western control, but this library appears not to have been burned by deliberate action but by being in the wrong place at the wrong time.⁶ Of course, libraries are not easy to move, particularly during battle. This library had a unique 15th century encyclopedia of 11,000 volumes most of which were destroyed. The **Library of Congress** apparently still has 41 of them. It is hard to imagine why these volumes have not been returned.

Cal Elliker died before he could write up his findings formally but his results illustrate a point: if a piece of text made it to the printing press, there is a high probability we have it today. Before turning to other kinds of human records, we do occasionally find textual works that were lost. Recently a method was found at **Brigham Young University** to read the manuscripts found in the ruins of a library at **Herculaneum**, which was caught up in the eruption of Vesuvius in 79AD.⁷ It has been speculated that the great literary works we know from historical accounts are missing are there. The previously unreadable manuscripts had been saved for 250 years until the time someone might be able to read them. What a remarkable thing it was to have saved them for all that time and what a miracle we can read them today.

But humans produce art, buildings, artifacts, and music, too, and preservation of these records have fared no better than text. *The Spoils of War*⁸ deals with World War II and discusses "...the loss, reappearance, and recovery of cultural property," including artifacts. A substan-

tial number of works were lost and some were later recovered. But *The Spoils of War* also details how works were not only lost owing to the fortunes of war but also through systematic attempts to erase the imprint of cultures of various peoples from Earth. The attempts

of the Nazis to eradicate the Jews and Gypsies are well known, but the Soviets were no less determined to erase the cultures of their subject peoples through their records and artifacts. We now have the term "ethnic cleansing." Perhaps the **Bosnian National Library's** fate and the destruction of

the Old Bridge (Stari Most) at **Mostar** was part of a similar plan we might call "cultural cleansing." This bridge was built to connect two parts of the city of **Mostar** and was begun during the reign of **Suleiman the Magnificent** and finished in 1566. It was destroyed by cannon fire in November, 1993.⁹ The destruction in May of the huge statues of **Buddha at Bamiyan**, northwest of **Kabul**, was apparently a result of the **Taliban's** religious fervor.¹⁰ We humans seem to have what the 1956 science fiction film, *Forbidden Planet*, calls "monsters of the id" we cannot seem to control. Cultural cleansing might require the systematic destruction of institutions doing the library function and, hence, the destruction of a library may be the object, not an accidental result of the fortunes of war. This fact has implications for macropreservation.

What about digital records?

The possible miracle of **Herculaneum** aside, the importance of the printing press in preservation is well understood. The printing press allows many copies of works to be produced and to be widely dispersed, thereby increasing the probability that works will survive, and to be readable without machinery. A work may be destroyed in a number of places but be safe in another place. **ARL** libraries, being large and widely dispersed, are a mechanism for macropreservation. At the recent **Charleston Conference**, there was an excellent session on projects in preservation of digital records that are funded by the **Mellon Foundation**. One of these

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is called **LOCKSS**—lots of copies keeps stuff safe—and the idea is to have many dispersed digital archives. This project is not yet live. However, as a result of the digitization of the human record and the conversion of that record to digital forms that we are now in, it is possible to contemplate the wholesale destruction of the human record not seen since before the invention of the printing press.

The **Longnow Foundation**, which was first concerned with what is involved in making a clock that would last 10,000 years and has considered what is involved in humans preserving records for that long, points out in its discussion of libraries that historians may regard the period since the 1950s as a dark age because of the problems inherent in preserving digital records.¹¹

Longnow lists a number of the problems with preserving digital records. A few from that list are:

- Their “evanescence.” The records themselves do not last long.
- Their many formats. The 8-track tape gives way to cassettes, which gives way to CDs, which in turn are replaced by DVD. If your mission is to preserve these records, do you preserve the machine that reads the old formats or do you convert the old formats to the new? And so on. A fuller list is known to most of the readers of *Against the Grain*.

Longnow does not discuss “electromagnetic pulse (EMP)” as a problem for digital records but EMP weapons destroy computers and digital records. Just the thing for someone who wanted to culturally cleanse a digital library. In fact, it is widely believed that a sufficiently powerful nuclear detonation in space above the central US could knock out all computers and computer storage devices in the US not configured to withstand the EMP.

How are we going to preserve our records and what we know, think about, and find beautiful?

Humans produce music, art, buildings, plays, artifacts, etc. Each has been traditionally housed in varying kinds of collections when possible. Art is kept in museums, books in libraries, artifacts in museums, and so on. Buildings are beyond putting in physical collections except, perhaps, as models or pictures in books but they, too, can evoke emotion or enrich our souls. Of course, pictures of buildings or art works, or tapes of opera performances are not as satisfactory as the originals. It is hard to imagine a digital copy of a piece of Chinese porcelain that would be as compelling as the original. While digital copies of text are generally acceptable substitutes, occasionally they are not—for instance, if one is interested in typography of 19th century monographs. Generally, though, a digital copy of a book supplies the same information as the paper copy.

Given the problems listed with digital records from **Longnow** and with the addition of the power of EMP weapons, many copies of digital records widely dispersed is a first step. We are accomplishing that first step now but without any systematic plan worthy of the seriousness of the problem before us. A copy of these digital records in a suitable format should also be put off planet—in space. A digital archive on the moon would create a threshold problem like that discussed in the science fiction libraries with the obelisk on the Moon in 2001: *A Space Odyssey*—knowledge above a certain level is required to open the record, thus making the records safer. In addition, they are removed from our attention when those monsters of the id are roaming the earth. However, a digital format that would last on the Moon would require research. **Longnow**, by the way, has purchased land in Nevada as a site for its activities. This location is not as isolated as the Moon would be but more reachable.

Digital records are now only satisfactory for text and, arguably, some genres of performed music. We do not have a format for digitally preserving buildings which is satisfactory. The energy that was at one time behind the **Virtual Reality Modelling Language** seems to have faltered but work on virtual reality with helmets may pan out so that one could experience what it is (or was) like to walk through a building using digital records. The originals buildings, of course, are not susceptible to storing but the digital copies would be. Painting is a hard problem and we do not seem close to anything adequate. My test is when I can see a full-sized rendition of **Renoir's** Luncheon of the Boating Party¹² from a digital file that is as compelling as the original. Meanwhile, what we have is only good for reminding one what the original looks like.

Given the problems with digital records, it would seem that the originals are the items we must pay particular attention to and to preserve our heritage, we need to move originals of archivable works out of cities when digital versions exist. Art museums are in cities for a number of reasons, the most important is that more people can see works of art there. But cities are vulnerable and many human artifacts—like **Joao's** manuscripts or paintings—are unique.

In North America, we can contemplate moving pieces of traditional libraries, such as the **Library of Congress (LC)**, out of cities, when publications exist digitally. In fact, consider the general proposition: when acceptable digital editions exist of archivable works such as books, paintings, and artifacts, the originals should be moved to where they can be protected. The **ARL** libraries are a natural part of the mix because they have large collections dispersed over the continent. Ubiquitous networks can supply much of the materials needed by those at **LC** and other libraries in cities; with the increasing number of digital records, more original records can be moved. Of course, North America is only a part of the human saga and this is a human problem that needs consideration.

For most of our history, macropreservation, to the extent it occurred at all, was happenstance. We can now understand the problem, and it is up to us to do something about it.

Endnotes

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5. Calvin Elliker, “Identification of the Printed Music Listed in the Index of the Music Library of Joao IV, King of Portugal, 1640-1656.” Unpublished paper, July, 1988. Cal delivered a paper based on this work at the Music Library Association meeting in Baltimore, February, 1992, “Reconstructing the Printed Music Library of Joao IV, King of Portugal.” It was not published.
6. Donald G. Davis Jr. and Cheng Huanwen, “The Destruction of a Great Library: China's Loss Belongs to the World.” *American Libraries*, October 1997, 60-62.
7. Andrew Curry, “High Tech, Old Papyrus: Recovering the Ancients,” *US News and World Report*, April 9, 2001, 58. Julie H. Walker, “A Library of Mud and Ashes,” *BYU Magazine*, Spring 2001, <http://magazine.byu.edu/article.tpl?mum=44-Spr01>.
8. Elizabeth Simpson, ed., *The Spoils of War: World War II and Its Aftermath: The Loss, Reappearance, and Recovery of Cultural Property* (New York: Harry N. Abrams, 1997).
9. Chuck Sudetic, “Mostar's Old Bridge Battered to Death,” *New York Times*, November 10, 1992, A18.
10. Robert Hughes, “Buddha Bashing,” *Time*, 157, no. 11, March 19, 2001, 52-53.
11. <http://www.longnow.org/>.
12. <http://www.phillipscollection.org/html/lbp.html>.

Rumors from page 16

Dr. George D. Terry (who spoke in Charleston in 1989, right after Hurricane Hugo) passed away in North Carolina in October. A memorial service for **Dr. Terry** was held on Friday, October 26, 2001 on the USC (Columbia, SC) campus. Contributions may be sent to the **USC Educational Foundation**, for the Southern Heritage Fund. For those wishing to send cards, the address is: 4927 Circle Drive, Columbia, SC 29206.

The awesome **Nancy Gibbs** <Nancy.Gibbs@Duke.edu> is now at **Duke University Libraries**, Nancy is Acquisitions Librarian and Assoc Head of Technical Services. **Nancy** single-handedly

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