



Satellite Meeting
"Conservation and preservation of library material in a cultural-heritage oriented context"
31 August - 1 September 2009
Rome, Italy

Organized by **IFLA Core Activity on Preservation and Conservation (PAC)**
and **IFLA Preservation and Conservation Section**

Thanks to the support of:



PRESENTATION on Visual Storage

Dianne van der Reyden, Library of Congress

I'd like to thank ICPAL for hosting this wonderful conference.

I'd also like to thank Christiane Baryla of the IFLA PAC Core for emphasizing the importance of convergence at this and other recent meetings, including.

-Convergence of libraries, archives and museums -Convergence of library or information science, computer science (through digitization), and materials science (it is vital that these three sciences converge and collaborate) -Convergence of exhibition and storage techniques (which is my topic this afternoon)

*This last convergence is beginning to occur more in the US at our national library, archives, and museums, for the following reasons:

1. Space is at a premium for our national library, archives and museums. (The National Archives and Records Agency, the Library of Congress, and the Smithsonian Institution are all located around the National Mall and Capitol Hill, which are running out of space)
2. Certain national treasures must be on permanent exhibition, such as the Declaration of Independence, but we now have technology that allows us to do this safely, on a limited basis (I say limited, because it is so expensive).

You see such a treasure in the 1507 Map of the World by Martin Waldseemüller, which named America in the first depiction of the new Western Hemisphere.

The map was first exhibited at the National Gallery of Art in 1992 (to mark the 500 year anniversary of Columbus' voyage).

This map was owned by a German Prince who convinced the German government to allow him to sell the map to the US Library of Congress in 2003.

A stipulation of the sale was that the US put the map on permanent exhibition at the Library of Congress, which we did in 2007, on the occasion of the 500 year anniversary of the map's printing.

I will explain how we did so later in this presentation.

*But first, let's review why we normally avoid putting sensitive items on display permanently!

****(explanation)****

*As I noted earlier, space is now at a premium. So to make the most of limited space, new case designs are now commercially available to ensure safe storage while allowing access by scholars and the general public.

Such cases have glass-fronted vitrines to display select items, while drawers below allow access to associated or study collections.

The drawers can be locked, or automatically opened with hydraulic or pneumatic systems.

The drawers can be illuminated upon opening with cool-temperature fiber optic systems.

*With regard to individual housing enclosures, several systems facilitate both exhibition and storage.

Polyester film encapsulation serves both purposes, especially when sealed with an ultrasonic welder.

Sealed-package window mats, or wrapper mat systems, also provide protected storage and access.

There are now computerized automatic mat cutting machines that can accurately cut very elaborate mats in seconds.

*We also have at LC a computerized automatic box-maker, but we still make many custom-made rare book boxes.

Some of these boxes are fitted with interior adjustable cradles that allow items to be displayed or studied in their boxes.

Other cradle systems have been tailored to books, manuscripts and scrolls.

*We have several examples of visual storage systems at LC.

For example, for the Gutenberg Bible, we have a case that has temperature and relative humidity controls.

These controls have monitors that sound alarms whenever the temperature or RH go out of range.

The alarms are connected to our Police Command Center.

When the Police get an alarm, they call me - day or night (and this seems to happen far too frequently).

We recently reinstalled a permanent exhibit representing Thomas Jefferson's library, which Jefferson arranged in a manner akin to that of the Academy's Library, our hosts for the tour yesterday.

Jefferson sold his Library to the American Congress when Congress' first library was destroyed by fire - by the British! (In 1814 the British used the books as fuel to burn down the US Capitol).

Unfortunately much of Jefferson's original library was later destroyed in a second fire - a Christmas eve fire some 40 years later...

*At the Smithsonian Institution, the entire American Art Museum has been turned into a visual storage facility, with paintings hung on retractable racks.

Retractable racks are also commercially available for rolled storage.

The best commercial products are often made of plain or fused powder-coated stainless steel or aluminum.

*There are many materials that should not be used to exhibit or display collection items, such as those containing acids, volatile organic compounds, oils, or formaldehyde.

*For the "America Map" we used primarily anodized aluminum.

To further protect the map and extend its life while on permanent exhibition, we eliminated harmful oxygen.

We created a hermetically sealed encasement filled with inert argon gas to block the infusion of oxygen, in order to prevent oxidation.

This was a huge undertaking, because the map was huge.

To insert the map, the encasement was tilted horizontally.

The glass window within a frame was supported at the frame corners by attachment to temporary legs, becoming in effect a glass table.

The encasement back was unbolted and lowered on a scissor jack system, and rolled out from under the glass frame.

The map was placed horizontally on the bed of the encasement back, which was then rolled under the glass frame.

The encasement back (with map) was then cranked up into the frame and hermetically sealed by rebolting it into place.

The sealed encasement was tilted vertically for display, and filled with inert argon gas.

*The back of the encasement supports sensors for oxygen intrusion and changes in pressure, temperature or relative humidity.

*Of course, there are many types of lower-tech systems to detect changes, and monitor and control RH, temperature, light and pollution, as you know.

*With regard to light, there is a trend toward determining acceptable lifetime exposures for items with high or intermediate sensitivity to light.

This is based on a determination of what combination of light levels and exposure times would lead to just noticeable fading, and then dividing that to determine how many 3 or 6 month-long exhibition exposures would be acceptable for the lifetime of the item.

*With regard to pollution, we are trying to determine realistic acceptable parts per billion exposures of sulfur or nitrogen dioxide, ozone, or volatile acids in what volume of air for what duration for specific collection compositions.

*With regard to temperature and relative humidity, we are partnering with the Image Permanence Institute to determine and tract, with a new web-based system, new preservation index parameters.

*And last but not least, with regard to imaging treasured collections, we are developing what we call a scripto-spatial imaging system.

This is akin to geographic imaging systems (GIS).

Our intention is to topographically link as much analytical data about our collections as possible.

In this manner, we could link data obtained through hyperspectral and scanning electron microscopic imaging, to elemental and other types of analyses.

Such scripto-spatial image linkages exhibit (beyond a shadow of a doubt) the hidden, added value our original collection materials contribute to the understanding and study of our collective cultural heritage.

Thanks you for your attention.