

## Special Collections: What are They and How do we Build Them? (1)<sup>1</sup>

JASON LEMAY<sup>2</sup>

An organization needs to consider a number of preservation issues when building a special collection. The level of control one can exert over these issues will vary, but they can have a direct impact on the integrity of special collection materials. This presentation will briefly deal with concerns related to the types of materials being collected; room and location considerations; environmental conditions; and pest and mold issues. Many of these are interrelated, so this is not a truly systematic process. Rather, one will probably find it necessary to go back and forth among these topics.

### TYPES OF MATERIALS

The types of material in the collection generally drive every other preservation factor. Will the organization be collecting paper, vellum, or parchment; photographs; or perhaps magnetic media? Most likely, collections will contain combinations of materials. For example, rare books typically contain paper, leather, and vellum, while archival collections tend to contain paper, photographs, and magnetic media.

Different materials have different security and environmental needs, and the handling of materials differs as well. Additionally, special technology may be needed to access the information stored on some materials. Magnetic media, micro formats, and other materials typically require special devices to access the information on them. Sometimes these devices are older technology that can be difficult to obtain or maintain, but even newer technology will eventually become old and obsolete. Materials that require special technology may benefit from conversion to prevent the loss of information in the future.

### ROOM AND LOCATION

Once an organization has determined the type of material it will be collecting, it must consider where that collection will be stored and what types of challenges available locations might pose. The potential issue of security is often a primary concern. Rare materials tend to be expensive and can be targets for theft, but monetary value is not the only concern. Unique materials of value only to a specific organization may be irreplaceable if damaged or misplaced. Addressing the security needs of a collection can alleviate both theft and inadvertent damage.

Next, consider the environmental conditions of possible locations. Temperature, humidity, and light all play significant roles in preservation because of the different environmental needs of materials, which makes the location's environment a major factor in the final decision. If there are concerns about the environment in a given location, determine possible ways to mitigate those concerns.

Shelving and storage available in a location can be an issue, as existing storage may not suit the needs of the material in the collection. Standard or traditional shelving may work well for books or archival boxes, but alternative

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<sup>2</sup> © Jason LeMay 2018. The author is Assistant Law Librarian for Cataloging and Metadata, Emory University School of Law, Atlanta, Georgia, USA.

solutions may be necessary for large, flat materials such as parchment deeds or maps. If a location does not currently have adequate storage, this could substantially increase the cost to prepare the area for a collection.

Finally, think about the accessibility of the location. Accessibility is a concern for staff who must work with the materials, as well as for potential researchers needing access to materials. For instance, a location within one's own building is much easier to work with than an off-site facility.

## ENVIRONMENTAL CONDITIONS

Few preservation concerns are of higher priority than the environmental conditions in a location. The storage environment can lead to irreparable damage for special collections, both directly and indirectly. Although most damage in special collections comes from pests and mold, the environmental conditions exacerbate the problem. Organizations need to address three principal elements of the environment: temperature, humidity, and light.

Temperature and humidity are tightly connected. Although some materials are specifically sensitive to temperature levels, the temperature level is most vital to controlling the humidity. Lowering the temperature will raise the relative humidity and create a damp environment, while raising the temperature will result in drier air. This might seem counter-intuitive at first, but colder air cannot hold as much water vapor. Cooling the air without also dehumidifying it causes the relative humidity to rise, and cooling the air too much makes it more difficult to lower the humidity.

Controlling humidity is vital for preservation. For the MacMillan Law Library's rare book collection, a temperature of approximately 70 degrees Fahrenheit (21C) and relative humidity of 50–60% is the goal. Materials such as vellum and parchment require a certain level of humidity to avoid drying out and becoming fragile. However, if the humidity level is too high, pests and mold will thrive. Keeping the temperature and humidity at this balanced rate is sufficient for vellum, but not high enough to encourage mold growth.

Although light generally causes fewer problems than temperature and humidity, an organization should address excessive light issues to avoid damage to rare materials. Light will cause exposed print and images to fade over time, especially if that light has high levels of UV radiation. Direct sunlight can also lead to excessive heating of exposed surfaces, raising temperatures, and the likelihood of damage.

Mitigation of environmental conditions is certainly possible, though some solutions may be costly. Heating and cooling systems, preferably separate from main building units, are useful for controlling temperature, and fans can help improve air circulation. Humidifiers and dehumidifiers will help to control the humidity levels, and complete climate control units will actually handle the temperature and humidity levels at the same time. Blinds or curtains can easily block out excessive sunlight. Alternatively, UV film might be the preferred solution to minimize UV exposure while still allowing increased light.

Awareness of the environment and planning for mitigation is a start, but ongoing monitoring of the environment is necessary to verify that no additional concerns arise. The environment will regularly respond to seasonal changes throughout the year, and mitigation measures may need occasional adjustment because of these changes. A quality hygrometer will show the current temperature and humidity and signal potential problems, and the use of an environmental data logger will allow tracking the conditions over time. Finally, physically monitoring the location will reveal potential problems such as insect or rodent activity. Catching problems early is the key to rapid correction and control.

## PESTS AND MOLD

Pests and mold can be major problems for special collections. Insects such as roaches and silverfish eat paper, leather, and the glues used in books. A major infestation of insects can cause substantial damage in a relatively short amount of time. However, insects are usually easy to eradicate with pesticides and traps. A much greater concern for many special collections is mold. Mold can be difficult to identify in early stages, and it is not unusual to find it in older materials. Books that are several hundred years old may not have been stored in ideal conditions during their full existence. Mold, similar to insects, will eat through paper, leather, and other organic material. Unlike insects, mold cannot be eliminated. Mitigation is possible, but any materials that have had mold will always contain spores.

The best defense against pests and mold is prevention. Regular cleaning of special collection areas is the most crucial step. Dust and vacuum the space regularly since dust can be a food source for both insects and

mold. However, be cautious about the use of chemical cleaning agents, as many are acidic and can damage sensitive materials.

Environmental monitoring is another key to preventing pests and mold. Spikes in humidity can cause mold spores to bloom, especially if there is a similar increase in temperature. This is one reason why data loggers can be so useful. Since they monitor the conditions continuously, they can note abnormal activity quickly. If environmental fluctuations have occurred, inspect materials for signs of problems such as mold.

Treating and quarantining materials is helpful to minimize the spread of mold. New acquisitions should be isolated from existing materials and inspected for problems. If materials show signs of mold, they must be treated professionally or removed from the collection. Treated materials should be permanently stored in a separate isolation area, since complete elimination of the mold is not possible. Periodically inspect these materials for signs of new mold growth, especially if there have been changes in the environmental conditions. Label the treated materials so researchers with mold sensitivities are aware of the issue and may use respirator masks or gloves to minimize the risk of injury.

### **PRESERVATION RESOURCES FOR MORE INFORMATION**

The following is a very brief list of resources one could consult for further information about preservation of materials in special collections.

- NEDCC – Northeast Document Conservation Center
  - <https://www.nedcc.org/>
- Library of Congress Preservation
  - <http://www.loc.gov/preservation/>
- Harvard Library Preservation Advice
  - <https://library.harvard.edu/preservation/preservation-advice>