

## Mold Outbreak at the Documentation and Information Center

### ABSTRACT

The House of Representatives, Brazil boasts a huge and significant collection that comprises manuscripts, photographs, films, objects, paintings, furniture and oversized panels from Athos Bulcão, Oscar Niemeyer and Di Cavalcanti, which are integrated to the architecture of the building.

In 2006, a mould outbreak was detected at the Historic Documentation Collection, which affected around 300,000 manuscript documents dated from 1823 along with other collections of the library. Besides the immediate actions, this major disaster triggered many changes on the conservation strategies of the Institution, which were mainly based on the treatment of individual items rather than cared for the collective. In addition, more competition than cooperation among the areas was always causing severe constraints on the development of the conservation projects.

Nowadays, with the support of managers and directors, conservators are focusing on ways of preventing the deterioration of the objects by improving environmental conditions, cleaning, handling and storage areas. The creation of teamwork with other key departments allowed the implementation preventive conservation strategies and projects throughout the Institution. Besides, together with the conservation team we have a group of mental disabled people who were specially trained for the job and are help with the preservation activities.

### HOUSE OF REPRESENTATIVES, BRAZIL

The House of Representatives is located at the Palace of the National Congress, Brasilia, the capital of Brazil. The palace, designed by the well-know architect Oscar Niemeyer, was created in 1960 and became a UNESCO heritage site in 1987.

The Institution boasts a significant and historic collection related to the to the legislative history of Brazil, which

comprises around: 250,000 of library books, 1,000,000,000 of manuscript documents, 4,000 rare books, 700 art objects, including furniture and paintings, 800,000 items of videos, films and photographs and important oversized panels, from Athos Bulcão, Oscar Niemeyer and Di Cavalcanti, which are integrated to the architecture of the building.

### DOCUMENTATION AND INFORMATION CENTER

The Documentation and Information Center, founded in 1971, is located in an annex of the House of Representatives. The mission of the Centre is to manage information for institutional purposes, to preserve the House of Representatives institutional memory and cultural assets, and to disseminate them to society.

The Conservation Section is an important area of the Center and it is responsible for the conservation activities, which contribute to the preservation of the Institutional collections. Since its creation in 1983 until 2007 most of the work was concentrated on the treatment of individual items rather than focusing on the long-term well being of the collections.

All strategies involved in the preventive conservation were an obscure field for the conservators and although they were aware of the problems that inappropriate environmental conditions, storage areas and cleaning could cause to the collections, addressing these matters effectively was very difficult because of the reasons described below:

- Lack of support from the Institution; It is important to point out that the raise of preservation awareness, especially in developing countries has been occurring only in the last ten years.
- Preservation was seen as a tertiary consideration at the Institution; Any political crises have always had a huge impact on the preservation resources.
- Managers tended to be very conservative concerning the necessary changes; It was believed that attending immediate conservation needs was far more significant and urgent.

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- The shortage of staff. This problem, as it will be explained later, was solved only in 2008,
- Conservators did not have a well-designed picture of the Institution's collections and their problems; Most of the preservation projects ended up not being planned nor developed satisfactorily.

#### THE DISASTER

Unfortunately in 2006, a major mold outbreak was discovered at the Historic Documentation Section, which houses approximately 1,000,000,000 of manuscripts documents dated from 1823. Documents are stored inside boxes and separated among envelopes, folders and sleeves. This special way of storing gives them an address and this is the only way of finding a piece of information.

Around 300,000 manuscript documents from this important collection were heavily affected and the main causes of this major disaster are listed here:

- Malfunctioning of the central air-conditioning unit; This problem had been occurring for more than 15 years without any effective solution. During this period humidity level could reach 80–85%.
- Necessity of moving staff to the storage area; This fact completely changed the environmental conditions of the place. Before that, the humidity level was high and the environmental conditions although not appropriate, seemed to be constant most of the time.
- Lack of preventive conservation measures and insufficient house keeping; The shortage of staff did not allow the conservators to work efficiently in all storage areas.
- Lack of communication between the areas; When the mould outbreak was discovered the metal boxes had been recently moved from shelves to sliding cabinets with a wooden base covered by a thin layer of PVC.
- Inappropriate cleaning procedure, made by the maintenance staff of the building, increased the humidity level inside the area.

#### PLAN OF ACTION—HISTORIC DOCUMENTATION COLLECTION

The situation was chaotic, but even more disturbing was the potential health implications for the staff. As a consequence, the following immediate actions were taken:

- Controlling the access to the storage area to ensure people's health and avoid the widespread of the infestation;
- Purchasing dehumidifiers and placing them inside the affected area; This dropped the humidity from 80% to 60%. Special cabinets, with a 20-liter plastic container, were built for the dehumidifiers. This avoided the

automatic shutdown of the equipment and the raising of humidity, especially during the closing hours.

- Constant monitoring of the environmental conditions of all storage areas trying to keep them within the appropriate parameters; Since the Centre has a system of central air-conditioning, the risk of mould widespread was even higher.
- Analyzing the mold samples; These analyses showed that the mold samples were not toxic and most of them were inactivated.
- Analyzing the air quality of all offices and collections areas; These analyses showed that the air quality was within the acceptable parameters, which gave more confidence to the staff members to continue work at the Centre.
- Use of protective gear; It was made mandatory the use of protective gear by all staff that needs to enter the affected area or work with the infested material. Safety equipment including a respirator with HEPA filters, vinyl gloves and Tyvek overalls.

The mold outbreak disaster brought about some pressing problems at the Institution such as, the risk of losing unique documents related to the legislative memory of Brazil and the demand from the staff members who urged for prompt actions. The solutions of these issues triggered the Institutional support for the conservation department projects. And for the first time in 15 years, it was possible to start building teamwork with other key departments of the house, changing competition between the areas into collaborative work.

#### TREATMENT—HISTORICAL COLLECTION

The first challenge was to find a place for undertaking the treatment. Since the Center has a central system of air conditioning, cleaning could not be done inside the building. The best option was to install a tent in a well-ventilated area outside the building. It was decided to start the work from the oldest boxes that showed, by sampling, to have a higher number of infected documents. The procedure followed the steps below:

- The boxes were transported from the affected area to the tent inside plastic bags;
- Documents were assessed for mold and checked whether it was active or not; If mold was active the document was left to dry before its removal. And then, another box with no active mold was taken for treatment.
- Moldy documents were cleaned;
  - A set of brushes, frequently disinfected to avoid transfer mold spore from one page to another, was used for this purpose. Most of the time, the use of a HEPA vacuum cleaner, even with low pressure, was not possible

because of the level of iron gall ink corrosion and acidity on the paper.

- Cleaning was also accomplished by using a soft brush to lift the mold off the paper into the vacuum cleaner nozzle, depending on the fragility of the support.
- The work was carried out by two separate pairs of people and another person was responsible for keeping the tables clean using a HEPA vacuum cleaner and disinfecting the boxes.
- After the document was cleaned by the first person of the pair, the second member placed the document inside the new storage material. This was made by an archivist, who was responsible for maintaining the original order of all documents inside each box.
- Each moldy document, after being cleaned, was placed inside an individual envelop with the date of its treatment on the top. This procedure would help during the future monitoring of the material.
- An overall condition report was made for all documents located in each box; This report showed the total number of moldy documents, their location and their priorities for future conservation treatment. Only documents, which presented a high level of degradation, were sent to the laboratory for conservation treatment.
- Cleaned material was placed in an environmentally stable area being monitored every three months.

Nowadays, all the procedures mentioned above are part of the Institution's routine. Until now, 300 boxes, which have been mostly affected, have already been treated. The interventions made in the central air-conditioning unit have changed the environmental conditions, with humidity levels ranging now from 50–55% and temperature between 20–22°C.

#### ANOTHER DISASTER—LEGISLATIVE COLLECTION

Later in 2007, another mold outbreak was detected. At this time, around 5,000 volumes of the Legislative Collection were affected. A thick growth of grayish mold appeared on the spine of the books and close examination showed that most of the volumes head, fore edges and tails were also affected. Sampling of inside pages showed them to be unaffected.

The main causes for this new mold outbreak were:

- The difficulty to control the environmental conditions of the place due to leaking problems on the basement area;
- The poor housekeeping of the collection; Due to the shortage of staff the vacuuming of books as well as the dusting of shelves had been deferred.
- Overcrowded storage area; For years the place was being used as a deposit of diverse library materials. Most of them were waiting to be evaluated for future donation or discard.

#### PLAN OF ACTION—LEGISLATIVE COLLECTION

The treatment of this collection was divided in two stages. The first one comprised the following actions:

- Isolation of the affected area
- Analyzes of the mold samples and air quality
- Discard of the volumes, which did not follow the Institution's acquisition policy
- Boxing of the volumes
- Renovation of the area

The second stage started months later with the arrival of the new staff members and it comprised:

- Stabilization of the environmental conditions
- Beginning of cleaning treatment
- Storage of the volumes in an environmentally stable area
- Daily monitoring of the environmental conditions

#### THE NEW STAFF MEMBERS

In 2008, five new conservators and eight conservation technicians joined the conservation team. With their arrival, it was possible to boost important projects related to the mold outbreak recovery, implement some preventive conservation strategies throughout the Institution and initiate the Institutional storage survey, which would give an understanding of the collections and their problems.

Three months later, following the House of Representative Accessibility Program, which has the objective of planning and executing integrated actions to ensure the accessibility of people with disabilities to all products, services and areas of the House, it was possible to hire a new group of people. At this time, eight professionals with mental disability and one trained monitor—who was responsible for supervising the work—joined the conservation team. Their activities comprised the removal of dust from documents and books and the assembling of storage materials.

This unique experience showed that people with mental disability when well trained become highly skilled and proactive. During the last year, they were responsible for the cleaning of around 6,000 volumes, being 4,000 from the rare book collection. The group has been showing an outstanding standard of work and the House of Representatives strongly believes and hopes that this experience will inspire other institutions.

#### CONCLUSION

The conservation practices of the House of Representatives went through considerable changes in the last four years. The Institution has adopted a broad preservation strategy of

preventative conservation—an approach that focuses on the long-term well being of the collections, rather than work on the treatments of individual items. The development of the collection survey has been enabling the Conservation Section to better prepare its projects and allocate resources. As for the preservation policy, besides defining the Institutional preservation responsibilities and guiding the staff members, it enhances credibility to preservation activities developed at the Institution.

However, what proved to be the greatest achievement was the creation of teamwork. This raised the awareness of the importance of commitment and collaboration among the areas, demonstrating that working in teams is vital for the development of effective preventive conservation strategies. It has become clear that by working as a group much more can be accomplished.

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