



The Getty Conservation Institute

instituut
collectie
nederland



Ons' Lieve Heer
op Solder

Assessment report
Museum 'Our Lord in the Attic'



A collaborative project of
The Getty Conservation Institute
The Netherlands Institute for Cultural Heritage
Museum Ons' Lieve Heer op Solder ('Our Lord in the Attic')

Executive summary

This assessment report is part of a collaborative project of The Getty Conservation Institute (GCI), the Netherlands Institute for Cultural Heritage (ICN) and Museum Ons' Lieve Heer op Solder ('Our Lord in the Attic') which aims:

- 1) To analyze the influence of the frequency and number of visitors on the environment of the collection and building, on visitor appreciation of the museum, and on the preservation of important values;
- 2) To develop an environmental management strategy that balances climate control, visitation and curatorial requirements to support sustainable access to the museum;
- 3) To create a didactic case study that can guide conservation students and professionals in decision-making and strategies for historic house museums.

As an important part of this project, the indoor climate of the museum and the current condition of the building, interior and collection were assessed. This clarified which visitor impact issues are at stake in the museum and to what extent. In addition to identifying current and future research needs, the assessment is also vital for implementing a preventive conservation strategy and for making informed management decisions. The assessment (both methodology and results) will be used in the case study, to illustrate their importance and usage.

The assessment has given a better insight in the effects of visitation on the building, its interiors and collection. However, at this point in time it is not yet possible to establish the carrying capacity of the building – one of the main concerns of the museum. It is not only the physical status of the building that determines this figure – visitor experience, health and safety regulations as well as the historic, social and economic values of the site.

Outcome of the assessment

The museum has a small but professional staff, working in a flat organizational structure. Tasks and responsibilities are divided between staff members but shared when necessary.

The museum is concerned about the effects of increasing visitor numbers on the indoor climate, the building and its collection as well as on visitor experience and safety. The number of church visitors prior to 1887 can be estimated to several millions. Ever since it became a museum, a further 2 million more people have visited the site. Annual visitor numbers are increasing steadily.

Indoor climate

The indoor climate was studied using historic data and data collected by ICN in collaboration with Technical University Eindhoven in the period January 2005 until present day. Three different indoor climate periods can be distinguished:

- 1661 – 1953: fireplaces and stoves were used for local thermal comfort.
- 1953 – 1990: central heating was installed and temperature could be controlled in winter, with a subsequent decrease in RH.
- 1990 – present: central heating with mobile (de)humidifiers to help control RH levels.

The building has limited insulation properties, with thin walls, large windows and a fairly open roof structure. The outdoor climate has therefore an almost immediate affect on the indoor climate. In summer, the top floors become quite warm.

The data collected show that the RH in Sael and Canal Room are very similar with seasonal fluctuations about 45% and daily fluctuation about 10%. In summer, the indoor climate is much more influenced by the outdoor climate, as windows are opened for human comfort with the consequence that the RH varies according to the outdoor climate. Both temperature and RH fluctuations are larger in summer.

In Church, the indoor climate in winter is quite stable with a temperature of 19 °C and an RH around 48%. In summer the outdoor climate has more impact on the indoor climate. The seasonal average increases to around 60% and 25 °C, but the fluctuations around that mean remain similar to those found in winter.

The air in church is well mixed; there are no significant differences between the canal and altar side and there is very limited stratification.

There are concerns about the indoor climate affecting some elements in the building. During winter, a large amount of water is brought into the building by the humidifiers. There is visible condensation on the inside of the windows, resulting in rapid decay of the windowsills.

Visitation does not appear to have a huge effect on the indoor climate – the leakage of the building helps mitigation of any built-up of moisture or temperature during periods of heavy visitation.

Condition – damage factors

Most of the damage¹ found in the building and collection is caused by physical forces type 3² (which describe physical forces that are constant in frequency and gradual/mild in severity), for example:

- Maintenance activities: dusting, sweeping, etc causing damage or loss of objects³.
- On-going vibration from visitors and the pipe organ causing damage to objects.
- Physical damage resulting from continual staff handling of objects.
- Continual handling and damage from installation of exhibits and movement of items.
- Impact from visitor use, causing cumulative damage to objects.
- Insufficient support causing damage to objects (exhibition and storage).
- Overcrowding causing damage to objects.
- Use of objects (e.g. doors, organ, religious objects).

These factors are directly related to visitation of the museum and use of the building. The factor 'PF 3/9 inherent stress' also ranks high and describes the damage caused by the object's own weight, construction, use of materials, and natural degradation processes such as shrinkage of wood, etc. The affect of this factor is enhanced by another damage factor, incorrect RH. It is believed that major damage occurred in the time when central heating was installed and no other climate measures were taken to compensate for the drier climate.

¹ From a discussion with the condition assessment resource team, it was felt by some that the term 'damage' was judgmental as some signs of 'damage' could add value to the experience or appreciation of an object. It was almost unanimously felt that that the experience of walking and climbing through the house to find this hidden church in the attic is the most valuable asset of the museum. The signs of wear and tear and the sounds of cracking floors add strongly to this experience. It was therefore found that 'material change' would be a more appropriate term.

² Robert Waller's risk assessment methodology was implemented by ICN prior to the condition assessment. This uses the Canadian Conservation Institutes' Preservation Framework (http://www.cci-icc.gc.ca/tools/framework/index_e.aspx), as described in: Brokerhof, Agnes; Luger, Tessa; Ankersmit, Bart; Bergevoet, Frank; Schillemans, Robert; Schoutens, Peter; Muller, Tine; Kiers, Judikje; Muething, Garnet; and Waller, Robert (2005) Risk assessment of Museum Amstelkring: application to an historic building and its collections and the consequences for preservation management. In book. *14th triennial meeting, The Hague, 12–16 September 2005: preprints (ICOM Committee for Conservation)*. Verger, Isabelle (Editor). James & James (Science Publishers) Ltd. (2005), pp. 590–596.
Waller, Robert (2003) *Assessing and managing risks to the Netherlands' cultural property*. Amsterdam: ICN, unpublished.

³ As the house is seen as part of the collection, an object can be a moveable object or a building element.

Condition of the building

The sagging of the building towards the alley is common for this type of building and most likely occurred within in the first 50 years after it was built, as it was settling. The slant is stable.

The galleries in the Church are of an unusual construction. There is some movement in the SW 1st gallery. Although current deformation of the galleries is thought to have occurred soon after construction, a structural engineer will have to assess the situation to establish if it is stable and safe.

Floors and stairs have been identified as the elements most under stress by visitation. Abrasion as seen on floors and original stairs is severe in some areas. A major part of this damage was caused in the centuries when this building was in use as a church.

Sagging of the building may have caused small splits between floor boards/beams, although the natural drying and shrinkage of wood is also a contributing factor. Traditionally, these gaps were filled and weak or damaged planks were replaced. Because the floors have not been maintained in this way in more recent history, damage of the wooden floors is now wide spread. If left untreated, the overall condition of the floors will decrease more rapidly.

Of immediate concern is the wear in certain areas, where the thickness of the wood may have decreased to a possibly structurally unsound situation. A more detailed survey of the wooden floors was planned in 2006 (after the assessment, and therefore not included in this report), which will identify the exact extent of this problem. The areas of concern are at the top of the stairs on the first gallery and next to the organ.

The stone floors are extremely susceptible to damage related to the stability of the crushed shell bed and the wooden floor underneath. At the moment, the slates are still secured but in order to avoid unnecessary damage in the future, maintaining a stable shell bed is crucial. The stone floors are also susceptible to scratching – protective measures may prevent unnecessary scratching.

The stairs show sign of wear and tear, such as in the abrasion of the steps. More recent damage can be observed in abrasion of paint and build up of grime on balustrades and doorposts caused by people touching these elements for support as they walk through. Some fixtures have been dislodged or have become unstable from use.

As well as wear and tear of surfaces, the deposition of dust and grime is also related to visitation. Visitors touch building elements as they walk through the building, especially when climbing the often–steep stairs. Maintaining paint layers where appropriate, as a means of protecting of the wood, should be considered.

Condition of the moveable collection

Many of the objects in the collection of the museum entered the building a long time ago. The present condition of most objects is stable – current fluctuations in the indoor climate are in a bandwidth that apparently does not result in major strain in objects. It must be said that most objects have the possibility to reduce strain because of the already existing cracks, most likely caused during the first central heating period. A few painted objects show signs of slow degradation processes caused by the current fluctuations in relative humidity, which affect mainly surface layers. Over time this may result in paint flaking and loss.

Most objects are displayed in the open and some are inviting to people to touch, although there is little evidence that this is causing physical damage. In the past however, this situation has resulted in theft. Nowadays better security measures are in place.

Mechanical damage observed in some objects can be related to handling – some objects are moved on a regular basis. Adding to the risk of this type of damage occurring is the lack of a proper exhibition preparation area, adequate storage and cramped office spaces.

Recommendations

The museum has a small but professional staff. Over the last few years daily operations have been identified, streamlined and tasks have been divided amongst staff and employees. However, the lack of adequate offices, storage and exhibition preparation spaces and a quarantine area has been identified as prohibiting further professionalization of the museum's operations.

The use of the Church: the periodic mass is believed to be adding to the value of the museum. Weddings were more of a discussion. As this is a fairly recent activity, the museum may have to reassess if the economic benefits weigh up against the disadvantages (having to close the museum for public, creation of a difficult setting to control and keep in strict boundaries, obvious signs of damage).

The current indoor climate can be improved by lowering the temperature setting in the winter to 17–18°C and by reducing the set point of the humidifiers to 40%. This will reduce the risk of condensation.

The location of humidifiers and dehumidifiers can be improved to reduce the risk to the collection and increase efficiency of the machines. The units should not be placed in front of radiators, nor close to objects. The humidifier and dehumidifier should not be in close vicinity and have a bandwidth between their set points, i.e. the dehumidifier should be set at least 10% higher.

Digital access to all information about the collection (both moveable and immovable) will greatly help management and operation of the museum. In addition, it is important to record 'material change', for which a structure should be put in place in which collection elements are assessed on a regular basis.

In order for the museum to make informed decisions whether to maintain, protect, conserve or restore, it is important to establish the 'level of acceptable change' for collection units and to clarify the terminology (i.e. type of measures that are covered by each of the terms). At this moment in time, there is still a difference in the use of terminology and the underlying ethics when comparing the treatment of moveable collections with that of architecture and architectural elements in the Netherlands. However, it is important to develop standards that apply both to the moveable and immovable collections, as these are strongly related in this house museum. This is an issue that has to be resolved nation wide, but the museum may perhaps be an initiator for appropriate research.

In order to establish the carrying capacity of the museum – one of the main concerns of the museum – it should be noted that additional research will be necessary into visitor experience and behavior, and into government health and safety regulations. Last but not least, the values of this museum (cultural, social, economical, etc.) will have to be identified in a broad discussion involving not only the museum staff and professional experts such as architects, art historians, conservators, conservation scientists, etc. but also local stakeholders such as the council, neighboring residents and businesses.