

Are our management actions good enough to preserve collections?

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Historic buildings which are open to tourists require an extra care when it comes to the management process. It is intended to provide the best cultural experience possible while, at the same time, ensure an appropriate conservation standard. The problem arises when the management staff is not qualified enough or implements strategies that do not meet the patrimony needs. Opting to install climate control equipment, changing the touristic circuit, making disinfection treatments, among others, are all examples that make part of the management practice. However, some of them only consider the economic factor jeopardizing its actual impact and the quality of the service. As a result, it is interesting to address the impact of such actions on the indoor environment because they can contribute to the collections' degradation.

This study was centred on the evaluation of recent management actions that may have had impact on the hygrothermal environment and consequently on conservation of collections in two eighteenth century buildings located in Coimbra, Portugal, a historic library [1] and a university museum [2]. The measures analysed included: (i) the disinfestation treatment of a collection in a showcase, (ii) the installation of dehumidifiers in spaces, and (iii) the installation of an anoxia chamber in an archive. Then, the work was carried out recurring to the analysis of indoor environment measurements collected from a monitoring campaign, hygrothermal and. Recently, it was started the monitoring of CO₂ in one space to study the influence (or not) of these actions on its concentration. The timeframe of the actions was registered in order to compare with previous situations throughout the analysis. The approach started with a preliminary interpretation of the hygrothermal behaviour before, during and after the actions' implementation. Afterwards, the methodology was completed with the assessment of the measured data in face of to the thresholds recommended by the most used conservation standards and guidelines using the concept of Performance Index (PI) [3].

From the results it was possible to recognise perceptible changes in the natural evolution of the hygrothermal conditions for almost every situation. Figure 1 represents one example of the consequences of not implementing correctly a management decision mentioned above as (ii). Nevertheless, this first approach did not allow the quantification of the impact on the collections' preventive conservation. Therefore, these results reveal the need to comprehend other analysis tools from standards, which will be addressed in a close future.

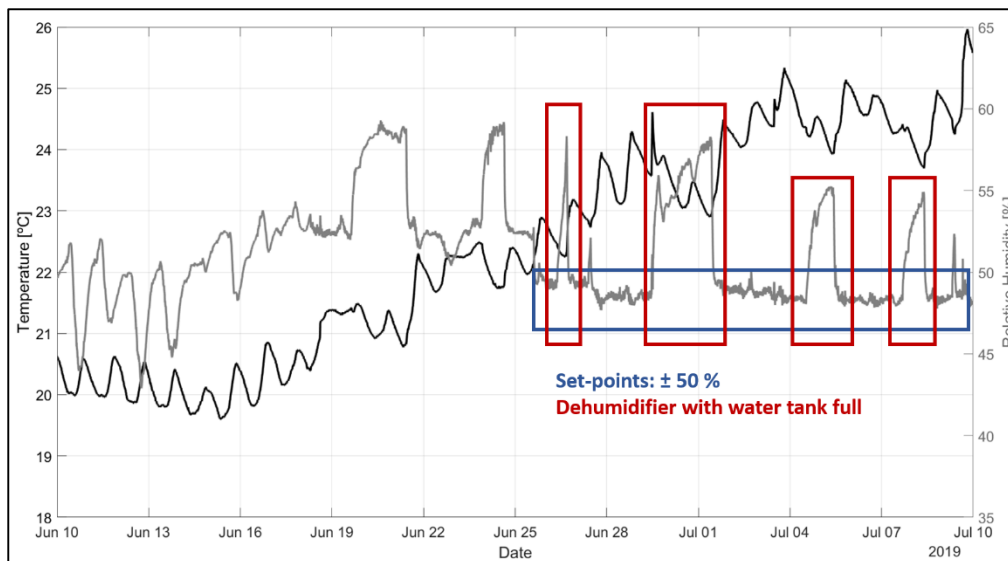


Figure 1 – Having the dehumidifier’s water tank overloaded led to an unnecessary fluctuation of the relative humidity within the space.

In conclusion, every measure implemented can be associated with some events that may (or not) harm collections. Therefore, they should be carefully studied to derive the best possible outcomes. The present work intended to evaluate how maintenance and preventive measures can be related to induced-stress in the hygrothermal environment and consequently affect conservation if poorly executed. For this reason, awareness and experience are crucial and the decision-making process should be based on preventive strategies that must include a previous monitoring campaign.

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[2] Pereira, L. D., Gaspar, A. R., Costa, J. J., & Pereira, G. (2019). The importance of long-term hygrothermal assessment of museum spaces: method and application in a permanent exhibition in a historical building. *Conservar Património*, 30, 91-105.

[3] M. Andretta, F. Coppola, & L. Seccia (2016). Investigation on the interaction between the outdoor environment and the indoor microclimate of a historical library. *Journal of Cultural Heritage*, 17, 75–86.

Contribution type:

- ORAL PRESENTATION
- POSTER PRESENTATION