

II PARADIGMA DEL MONITORAGGIO NELLA CONSERVAZIONE E NELLA GESTIONE DELLA SICUREZZA DELLE STRUTTURE STORICHE

THE MONITORING PARADIGM IN THE CONSERVATION AND SAFETY MANAGEMENT OF HISTORICAL STRUCTURES

ANTONELLA SAISI

Politecnico di Milano – Dipartimento ABC

E-mail: antonella.saisi@polimi.it

Abstract.

An effective conservation strategy is based on knowledge of the building, involving the collection of information on construction technology, characteristics of the materials, the geometry, transformations over time, and the assessment of any decay and damage. However, investigations on historic buildings - and as such morphologically extremely complex - often highlight the presence of local anomalies or defects, which cannot be clearly associated with ongoing pathology nor with an "intact" state. These are situations resulting from previous transformations or damage, which require monitoring and precise attention thresholds to detect the behavior change on set of the first occurrence. This information allows to drive conservation and use strategies of the building, which have safety as a priority in full respect of the values, characteristics and possibilities of the structure according to the Restoration Principles and the Recommendations for Analysis and the Restoration of Architectural Heritage (ICOMOS/ISCARSAH, 2005); the reliability of the assessments and the refinement of knowledge over time are the factors determining the success of the entire process.

The research highlights the importance of continuous assessment on historic buildings, with particular reference to dynamic monitoring systems for towers; these structures are generally massive with seismic vulnerability caused by the slenderness but characterized by low systematicity in the planning of checks and maintenance.

Keywords: *historic structures, monitoring, diagnosis, masonry, towers, structural health monitoring*