

L'HISTORIC INDOOR MICROCLIMATE DELL'EDILIZIA CONTEMPORANEA. APPLICAZIONI E VANTAGGI DERIVANTI DALLO STUDIO DIACRONICO DEL MICROCLIMA

Anna Bonora¹, Kristian Fabbri², Marco Pretelli³

¹Università di Bologna, Dipartimento di Architettura, anna.bonora16@gmail.com

²Università di Bologna, Dipartimento di Architettura, kristian.fabbri@unibo.it

³Università di Bologna, Dipartimento di Architettura, marco.pretelli@unibo.it

ABSTRACT

This study aims to verify the possibility to extend to the construction industry, the strategies implemented in order to monitor an historic building's microclimate, Villa Barbaro to be specific, built in Maser between 1554 and 1560 by the architect Andrea Palladio.

Data obtained from the monitoring enabled to proceed with the virtual modelling necessary to control the physic behaviour of the indoor microclimate through thermo/fluid-dynamic simulations, allowing the elaboration of some hypothesis, finalized to increase the level of comfort for the visitors and guarantee the conservation of the building and the goods guarded inside. The methodology adopted is extremely simple and not expensive, both in terms of purchase and positioning of the probes or gathering and managing data; therefore it is possible to imagine a wide extension of the method.

All these information permit to forecast the percentage of microclimatic risk and to evaluate the level of comfort perceived by visitors. Together with monitoring, an oriented reading of "The Four Books of Architecture" has been done, in order to find the passages in which Andrea Palladio provides indications and suggestions that could somehow have a "microclimatic value".

The strength of the proposed methodology lies in the possibility to pre-emptively define, throughout a virtual building model, which actions could aid the preservation of the good, avoiding the risk component that would be taken working on the original.