A DIFFICULT CHALLENGE: THE CONSERVATION OF EARTHEN ARCHITECTURE

SILVIA RESCIC¹, MANUELA MATTONE², FABIO FRATINI³

1 CNR-ISPC (Istituto di Scienze del Patrimonio Culturale) silvia.rescic@cnr.it 2 DAD-Politecnico di Torino- manuela.mattone@polito.it; Associata CNR- ISPC 3 CNR-ISPC (Istituto di Scienze del Patrimonio Culturale) fabio.fratini@cnr.it

Abstract

The action of atmospheric agents on the materials of monuments and buildings constitutes one of the main factors of their decay. With regard to this, the ongoing climate change may cause a worsening of this action due to an increase in thermal shocks, freeze-thaw cycles, wind action and intensity of rainfalls. In view of this, a fragile architecture such as the earth one is in a condition of even greater risk. The only way to increase the resilience of these constructions is represented by scheduled maintenance interventions that not only deal with the earth material, but also with the proper functionality of the rainwater disposal systems. These include both the application of renders (real sacrifice surfaces) and the execution of consolidating/protective treatments, generally adopted in archaeological sites and on decorated surfaces. This contribution will provide an overview of the studies carried out to increase the durability of the earthen buildings through the development of both more durable renders and natural and synthetic protective products. The results of the authors' experiences will be also reported. Furthermore, with regard to the experimental activity carried out, techniques usually applied to verify the effectiveness of the conservative intervention in terms of resistance to water action, will be illustrated.

Keywords: earthen architecture, water action, protection, durability