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SciVerse ScienceDirect

Procedia - Social and Behavioral Sciences 00 (2014) 000–000

Procedia
Social and Behavioral Sciences

The International Congress on Management of Cultural Heritage and Cultural Memory Institutions (URLA 2014)

Negative Aspects for Conservation of Chalk Stone Monuments

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Abstract

This paper deals with some negative results of the conservation methods applied to the chalk stone of the Romanian Chalk Church (Basarabi Church), as follows: cement, polycarbonate envelope degradation or organic matters (ethyl silicate) used to fill the hole created in the humid wall. The constituent chalk stone is amorphous calcium carbonate, almost pure, soft, with high porosity, very hygroscopic and with high capillary and its degradation process was profoundly affected by the human inappropriate interventions.

Selection and peer-review under responsibility of Dr. Nevzat Özel and Tolga Çakmak.

Keywords: Chalk Church, petrographic tests, physico-chemical methods

1. Introduction

In this paper it is presented some negative aspects about the conservation procedures applied to Basarabi Chuck Church, ensamble of Churches dated from 9th - 11th century and discovered on 1957 (Ion et al., 2013a). Now this historical building is highly degraded, fast and efficient solutions for restoration being required. The Basarabi whole cave is recognized as the first religious monument from medieval Dobrogea. Situated in the cliff of a chalk stone hill, this ensemble is built from calcium carbonate (chalk) and is very sensitive to humidity, frost, salts and atmospheric pollution (acid deposition materials) being recognized as the most important and common causes of decay the heritage monuments (Charola, 2000; Pop & Ion, 2013). Usually, calcium carbonate is occurring as

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