

Characterization and damage assessment of stones used in the Pasargadae World Heritage Site, Achaemenian period

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© 2018, © 2018 Taylor & Francis. The architectural remains at Pasargadae were built of three different stones classified according to their colors (beige, dark-gray, and green-gray). The stones show different macroscopic features, such as texture and decay patterns. The aim of this study is to identify the composition of the stones and to evaluate the main decay factors through petrographic studies in order to make conservation decisions more compatible. Petrochemical analyses show that the stones are in fact limestones with different features; two of them have a compact texture (beige and dark-gray stones), while the third has a fairly porous structure (green-gray stone). In some beige stone samples, dolomite was identified. Despite the fact that the presence of salt is a possible decay factor, X-ray diffraction analysis did not report any salt. According to SEM observations, the main reasons for decay in dark-gray and green-gray stones are the dissolution of calcite crystals and the

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