‘Back to Nature’ in Conserving Museum Artefacts: Developing a methodology for the investigation of stone consolidants

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The British Museum has a large collection of stone artefacts, including limestone sculptures, from a range of geographical and historical sources. Many of these artefacts are deteriorating and exhibit structural decay, friable or delaminating surfaces, and complications involving soluble salts. The conservation of these artefacts is essential if they are to survive for future generations. Often conservators endeavour to alter a given artefact as little as possible, favouring preventative methods. However, in cases where decay progresses to a serious state where significant portions of an artefact may be lost, more interventive conservation methods may be sought.

The Back to Nature project is a Collaborative Doctoral Award between the University of Oxford and The British Museum. Funded by the AHRC, it is investigating two newly developed techniques; CIPS (Calcite in situ Precipitation System) and Calcium Oxalate treatment, to assess the feasibility of their use within the field of heritage stone conservation. These treatments involve the application of inorganic solutions that react with the stone to produce a consolidant, a material to strengthen and hold an artefact together. These novel techniques mimic natural rock hardening and strengthening processes, and this investigation is situated within a general trend in the conservation field as a whole, to discover treatments that only introduce new materials that are compatible with the original artefact matter. CIPS and Calcium Oxalate treatment are being analysed in comparison with the group of more traditional organic consolidants known as Organo Silanes.

This poster presents the pilot study of the Back to Nature project. Designed with the broad aim of trialling the conservation treatments and to highlight any possible issues with the experimental design, there are two specific objectives of the pilot study. The first is to examine the difference in a select set of measurements between fresh and weathered stone samples. This will examine the importance of the source of sample material, and the issue of whether fresh stone samples can really provide an accurate substitution for artefacts that may have undergone thousand of years of weathering. The second objective is to determine the minimum number of replicates required for an adequate and meaningful comparison of consolidation treatments. The results of these two objectives will provide a basis for the methodology adopted for the Back to Nature research, enhancing the value and reliability of data obtained from future experiment essential to the project, and the results may have wider reaching consequences for the interpretation of data from other stone conservation investigations.

A Mesozoic to Tertiary geodynamic evolution of the southern Dinaric-Hellenic belt: the ophiolites as tools for its reconstruction

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With this abstract we try to schematically reconstruct a portion of the long story of the southern Dinaric-Hellenic, basing our effort on the complex tectono-stratigraphic evolution of the Dinaric ophiolites. First of all, we propose a new classification of the ophiolites cropping out in Albania and Greece that includes seven different types of occurrences, which correspond to different tectonic “units”. From bottom upwards they are: 1- the Sub-ophiolitic Mélange (SOM); 2 - the Triassic Ophiolites (TOP); 3 - the Metamorphic Soles (MES); 4 - the