
Experimenting and Valuating Interdisciplinary Analysis on Prehistoric Portable Art Objects

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Résumé

An explorative research program with a focus on the interaction between naked eyes visual analysis, lens/ lower magnification microscopic analysis/ macro-photography and 3D surface and volume reconstruction through Structure from Motion and Laser Scanning techniques; has been applied on stone materials related to the class of portable art from Upper Paleolithic Italian sites. The need of creating this approach has been derived firstly by the interest in understanding if the 3D modelling might "virtually" assist, with satisfactory quality details, the magnification of the decorated stone, recording and selecting past events occurred on the worked stone surface, helping to develop an expert system and consequently to avoid the traditional lens/ microscopic observation routine. Secondly, but not less important, we planned to execute 3D model in order to have a "clone" of materials that must undergo for further cleaning / restoration in order to have the "before" and "after" steps and to contribute to perform a research with valuable contextual and more objective information. Surface analysis recording by conventional analytical/ microscopic/ photographic approach plays a key role in understanding the study in object within its complete range of problematic, it is still human time- spending but it can be included in a sustainability project range and it also offers many meaningful data for the interpretation. The values of "new" methods are without any doubt very high and they include a) reducing of time working to record doing single by single hand drawing of surface details and b) to contribute to record the whole object volume giving a sense of having it as a real one. Technology is nowadays more robotic and with intelligence programming support than in the past but still we wonder about the practical benefit of the association of it into examination of some categories of archaeological materials. What is the true value of this methodological encountering? A solution could be in developing an interaction to balance and to make synergic these technological resources with the archaeological research methodologies. Here we present suggestions towards an optimisation and enhancing of this methodology including the data we obtained from this interdisciplinary collaborations.

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Mots-Clés: 3D modeling, Photogrammetry, Structure from Motion techniques, Laser scanning techniques, Late Glacial, Italy, Portable Art, Interdisciplinary Approach.