

Study of Lost Reality: Photogrammetric 3D-modelling of Ancient Art Instances in Ukraine

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Fig.1 - Kamyana Mohyla 1. 3D model of snake-like sculpture image before cleaning. (by Simon Radchenko)

Fig.2 - Kamyana Mohyla 1. 3D model of snake-like sculpture image after cleaning. (by Simon Radchenko)

3D modelling offers a new perspective for studying ancient items regardless of the object's actual state and location. This is supported by the latest research on the Kamyana Mohyla prehistoric site located in the Ukrainian steppes. This site is known as a location with numerous examples of ancient rock art, as such, it is an effective location for research on prehistoric cultures. Finds from the 2016 field season resulted in interpretations of animal-like sculptured images made of local sandstone. According to analysis, the objects belong to the Mesolithic Kukrek Culture layer, which is dated to 8500–7400 calBC. To collect all the available information concerning these finds, qualitative research of their structure and texture was needed. These features were recorded using photogrammetric 3D-modelling including measuring, scaling and referencing. Use of a model is the most productive way to describe the complicated shape of investigated objects. Furthermore, it reveals their original state. Thus, photogrammetric modelling appears to be the way to store visual information about recently deteriorated reality and to make spatial visual reconstructions and assumptions concerning the ancient state of objects. This is extremely important considering that unique and unmatched objects might suffer damage during archeological study.

