

Marks on Relief wall Paintings from Knossos

The relief fragments of wall paintings under consideration were discovered at the archaeological site of Knossos in Crete Island. These reliefs are kept in the archaeological museum of Heraklion since Arthur Evans excavated Knossos palace in the early 1900s. He discovered thousands of wall paintings that date around 1500 B.C.E The sculptor's tools together with the painter's brushes interacted in harmony to create new textures and unique works of relief colorful wall paintings.

Flat and relief wall paintings were used in combination for decoration of Knossos palace walls. A small number of reliefs were unearthed but their preservation state was rather bad. Their poor state of preservation makes their study a challenging task. Many researchers in the past tried to understand what these artifacts depicted. They examined extensively their dating, subject matter, and spatial distribution examples examined extensively their dating, subject matter, and spatial distribution, taking under consideration that they had few written detailed informations from Evans excavation log. After two World Wars many fragments and their information have been lost. We do not know the theme, their position in the wall or the alignment that they had in the past. Furthermore, pigments are faint or have been destroyed leaving only part of the relief intact. Without the final paint layer, the whole procedure is even more hard to proceed.

This study explores some technical aspects of relief painting and what these might have allowed makers to create. Some special construction techniques, occur to Knossos fragments frequently: the incavo and impasto techniques, and their combination, as well as the incising and painting in relief. In the context of preliminary research, some common features, such as the color of the flat background needed further research. A combination of microscope with three-dimensional digital model will take place on some selected relief wall paintings. Four relief fragments with different indications of origin were selected to be examined under the microscope. One fragment depicts the lower part of a bovine hoof, in grey-blue color while the others are not easy to identify. These fragments derive from a second relief 'bull' with different color skin and large dimensions and are carefully examined. The four reliefs are most likely related because of the animal's fur that is whitish. Traces of the red background color are also preserved.

Under the microscope, the grey-blue hoof, revealed a technical detail. A small mark was spotted of red color. Is it a sign of marking the animal or a monogram of the artist that signed his work? The creation of 3D models of the fragments made it possible to examine them from different angles, without suffering any stress. After the examination of details in their construction techniques some special characteristics were detected. Trying different points of view in 3D is a primitif attempt to reconstruct a small part of a second relief white 'bull' from Knossos.

We argue that by identifying the different textures and materials in the relief we will broaden the range of identifying features. Combining 3D technology with digital microscopy can help shed new light on difficult and scattered pieces of objects and also have a positive impact on research. With the application of technology, we hope that new possibilities will emerge for the future of Minoan frescoes.

In this paper, some technical elements regarding the construction of the Knossian frescoes were discussed. The combined application of different types of technology will facilitate and enhance research into one of the oldest European cultural civilizations.

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