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Conservation, IR, UV and 3D-Imaging: the Egyptian Execration Statuettes of the RMAH

DURATION
01/10/2013 – 31/12/2015

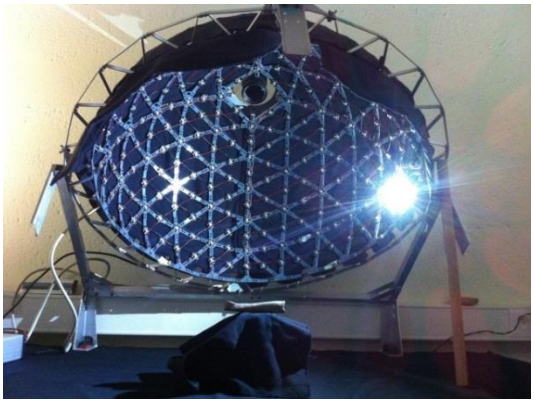
BUDGET
149.500 €

PROJECT DESCRIPTION

The collections of the Antiquity Department of the Royal Museums of Art and History in Brussels (RMAH) are diverse and provide an ongoing challenge in respect to visualization, collection management, research and valorisation. Providing the perfect recording of an object, displaying every detail, is challenging and only feasible with a significant investment of time and the use of appropriate equipment. Moreover, museum collections consist of more than just a few highlights and the imaging of entire collections, for conservational, museological or scientific purposes, must therefore be approached in a methodological, comprehensive way, be cost-effective and offer an added value.

Clay artefacts inscribed with ink and other pigments pose a particular challenge. These are three-dimensional media with curved surfaces holding traces of writing that, in some cases, remain clear to the naked eye, but more often have faded or have mostly disappeared completely. Obtaining recordings that allow a detailed examination of these objects is challenging. Although these items are photographed with care and with the appropriate equipment and are handled by professionals, the resulting images have lost their 3D dimensions and often do not allow the identification of writings that have faded or disappeared.

In order to overcome these problems, a recording system must: 1) Produce reliable 3D models and 2) (Re)visualize the ink traces as optimally as possible. This should result in a user-friendly course of actions, manageable by curators, conservators, researchers and other stakeholders in museum or research milieus. Therefore, in view of its challenges, the objectives of this project are:



- To develop a non-destructive and non-invasive recording method for this type of artefacts, resulting in virtual models to be visualized and studied with freeware software packages.
- To pioneer the abilities of multispectral imaging on clay objects (visible light, infrared and ultraviolet) by using a converted conventional High Definition DSLR camera.
- To extend the Portable Light Dome (PLD) or ‘mini 3D dome’ in use at the RMAH Antiquity Department, to incorporate additional infrared (IF) and ultraviolet (UV) relighting systems, allowing the output of 3D-models with IF and UV based texture maps.
- To establish a user-friendly methodology to enhance the visibility of ink and pigment traces on clay objects.
- To test this pioneering methodology in a case-study, consisting of some 120 Egyptian clay figurines with ink and pigment writings, at different locations..

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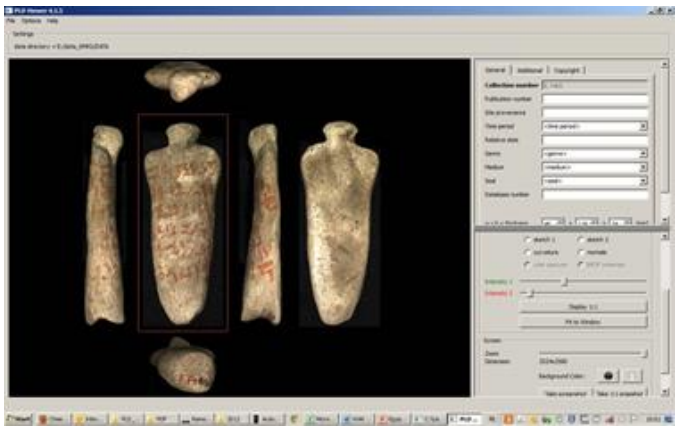
As such, the present project pertains to the recording and valorisation of one of the most renowned collections of written sources for ancient Near Eastern studies, Egyptian history and Biblical studies for the early 2nd millennium BCE, the so-called Execration Texts. They are written on pottery sherds (ostraca) or on clay figurines representing prisoners. Written in hieratic (a cursive writing of hieroglyphs), these texts list enemies of the Egyptian empire and were ritually broken in order to magically destabilise and as such destroy enemies of the state. The main groups date from the Middle Kingdom (ca. 2050-1650 BCE), but the oldest known examples date back to the Old Kingdom (ca. 2680-2180). The so-called Brussels Group of Execration Texts, preserved at the RMAH, consists of 104 figurines. It was first published by G. Posener in 1940 (Princes et pays d'Asie et de Nubie. Textes hiératiques sur des figurines d'envoûtement du Moyen Empire, Bruxelles). Other groups are the Berlin Group of ostraca and the Mirgissa Group (in Nubia) consisting of ostraca and figurines. The inscriptions enumerate foreign countries and their leaders, not under the pharaoh's political or military control and considered to pose a threat to the Egyptian empire. The enumeration of ancient place names, regions, foreign rulers and tribes makes them a primary and invaluable source for the study of Egyptian-Levantine relations and historical toponymy.

The Brussels Group is the largest in its kind, but another European collection keeps similar figurines: the Rijksmuseum van Oudheden in Leiden. Therefore, this case-study lends itself perfectly to test the mobility and manageability of the pioneered method at different locations.

The ultimate goal is the development of an efficient course of actions to record the ink and pigment inscriptions on historical clay documents, to limit the future handling of these fragile artefacts to a minimum, thus ensuring their sustainability. This tool also offers opportunities for the recording of a variety of similar artefacts (ostraca, etc.). The comprehensive approach, overlaying 3D models with visible light, IR and UV detected texture maps, is pioneering and will provide curators and researchers with virtual artefacts for a broad range of historical and technical studies. In addition, the digital results will facilitate the management of the recorded collections, leading to a more methodical, scientific exploitation of these invaluable historical sources.



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LINKS

http://www.kmkg-mrah.be/conservation-ir-uv-and-3d-imaging-egyptian-execration-statuettes