

## **COUNTING, READING AND WRITING IN MINOAN CRETE: RESEARCH PROJECTS ON AEGEAN ARCHAEOLOGY AND EPIGRAPHY (2015 – 2018)**

Barbara Montecchi (Alma Mater Studiorum Università di Bologna)

In the past three years, my research activity was devoted to two different projects. The first, titled “Counting, labelling, and sealing at Ayia Triada”, was generously funded by the Alexander von Humboldt Foundation and carried out at the CMS Heidelberg (September 2015 – August 2017). The second, titled “Cretan Hieroglyphic and Linear A Inscriptions on Pottery”, was generously funded by the Alexander Onassis Foundation and carried out at the Aristotle University of Thessaloniki (September 2017 – March 2018).

### **Counting, labelling, and sealing at Ayia Triada**

This long-term research project focused on the administrative documents found at Ayia Triada, in South-Central Crete, by the Italian Archaeological Mission in Crete at the beginning of the 20th Century<sup>1</sup>. They represent the largest documentary archive known thus far dating to LM IB, that is circa mid-15<sup>th</sup> century B.C., if following traditional “Low Chronology”, or mid-16<sup>th</sup> century B.C., according to the “High Chronology”. Among these documents we can distinguish 148 written clay tablets and more than one thousand sealed clay lumps of different shapes, often also bearing short inscriptions (Linear A script), which are what remain today of a complex economic system aimed at controlling the mobilization of resources and goods. I carried out a systematic, quantitative, contextual and comparative study of such documents, aimed at reconstructing the economic sectors covered by Linear A records, the functions and purposes of each document type, as well as the original mechanisms of interaction among them. Moreover, since the individuals responsible for counting goods also “counted” in an economic, political and social sense, I addressed agency issues such as the roles and status of the people involved in sealing and writing practices within the general framework of the administrative procedures used at Ayia Triada in LM IB.

For the study permits, I am deeply grateful to the directors of the Museums where the documents are currently housed: the Herakleion Archaeological Museum, the “Museo delle Civiltà” of Rome, and the “Museo Archeologico Nazionale” of Florence.

First of all, I created two databases.

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<sup>1</sup> Alternative transcriptions of the original Greek site name Ἁγία Τριάδα into Latin characters are Hagia Triada and, preferred in Italian, Haghia Triada.

**HT\_Docs database** holds all the administrative documents and it is made up of 1,270 records. It also includes documents which are now missing (as for example two hanging nodules MPR <71968> and <71970>), and documents whose provenance from Ayia Triada is likely but not certain (as for example Flat-base nodule HM ST 1690). It enables us to order all these documents by sorting on different fields, such as Museum, Type, Sub-type (when it exists), Shape, Seal type, Find Spot, etc., or simply find out a specific document by writing the Inventory number in the appropriate field. It is important to remark that the focus here is the features of the sealings and not the iconography of the seals attested on them. For the classification of the seal motives we refer to CMS (Seal Reference field).

**HT\_Tablets database** was specifically designed for written clay tablets. It holds all the 149 clay tablets which are also included in the **HT\_Docs** database, but offers different queries, which are more suitable for written documents without seal impression. In both databases, two more pieces are added to the 147 tablets classified as HT in GORILA I: a tablet fragment only known thanks to the drawing made by F. Halbherr in one of his field note, and the tablet classified as PH(?) 31 in GORILA I, which was probably found at Ayia Triada. This database allows us to sort tablets on different fields, such as Class/Series, Number (according to the numeration of GORILA I), Pairs, Category of text, Hand, Opisthography, Presence of a graffito on the reverse, Traces of erasures, Find Spot, and many others.

I have classified tablets into different Classes conventionally indicated by a capital letter (e.g. A-class), on the basis of the logograms attested on them, and then grouped into Series indicated by a small letter (e.g. Aa series), on the basis of the variation occurring in the arrangement of the text. Moreover, eight pairs of tablets which share logograms, text arrangement, find spot and palaeographic features have been recognised. Such pairs of tablets are numbered from 1 to 8 and can be sorted on the appropriate field.

After this long preparatory work, I focused on an extensive comment on the documents. Although they have aroused great interest since the time of their discovery, in fact, they have never been studied and fully published together, with an extensive commentary on their archaeological contexts, characteristics and functions.

Moreover, for a number of reasons, the exact places in which the Ayia Triada documents were found are largely uncertain. Therefore, a great effort was put in retrieving as much information as possible from both published and unpublished reports, in order to shed light on their find-spots and reconstruct their archaeological and systemic contexts. This work couldn't have been undertaken without the permission and support of the Italian Archaeological School of Athens (SAIA), and Accademia Roveretana degli Agiati.

As far as the approach to the material is concerned, the two main original features of this research were: 1) a comprehensive and combined study of tablets and sealings, 2) the constant effort to integrate archaeological and epigraphic evidence. To this aim, the documents were systematically compared with those from other Minoan sites. Moreover, a great importance was given to the connections between the administrative and accounting practices, on the one hand, and the religious, ritual and ceremonial activities, on the other.

Finally, for the very first time, the study of the Ayia Triada documents was embedded into the study of the territorial organisation of the western Messara in LM IB, which has important consequences for the reconstruction of the relationship between Ayia Triada and Phaistos at the end of the Neopalatial Period.

The major outcome of this work is the forthcoming monograph **Contare a Haghia Triada. Le tavolette in lineare A, i documenti sigillati e il sistema economico-amministrativo nel TM IB**, Roma: CNR – Istituto di Studi sul Mediterraneo Antico (*Incunabula Graeca* CVII).

### **Cretan Hieroglyphic and Linear A Inscriptions on Pottery**

As said above, by adopting a widely accepted opinion that Bronze Age administrative tasks were performed by (male) officials of central economic organisations, the goal of the first project was to examine in detail the specific functions of the administrative documents, leaving aside the social agents participating in the writing and sealing. As my research has progressed, however, it has become clearer that, during the Neopalatial Period at least, a much wider range of people, including non-professional, common people, priests, and possibly women, were involved, at different levels, in administrative practices. Starting from this observation, the idea arose of a completely new project, more extended in time and space, and focused on a different class of material, namely inscribed pottery, in order to explore it from the point of view of literacy and agency. Therefore, I started analyzing Cretan Hieroglyphic and Linear A inscriptions on pottery, with the aim of showing those unique characteristics, which make them valuable means of exploring Bronze Age cultural, social and economic aspects.

The focus was the practice of writing on pottery in the Aegean during the Middle and Late Bronze Age and the topic was embedded in a diachronic perspective, in order to pinpoint elements of continuity, innovation, and breaks from the First to the Second Palace Period.

Cretan Hieroglyphic inscriptions are attested, either painted or incised, on 22 vases. They can be regarded as a homogeneous group, since they all date back to the MM II (about 1875/50-1750/00 B.C.) and were found at a few Cretan sites, mostly at Malia. About 80 Linear A inscribed clay vessels are known thus far. The chronology ranges from the MM II to the LM IIIA1 (PK Zb 24), but the vast majority of

these date back to the MM III - LM I. Most of these inscriptions have been found in Crete, mostly at Knossos, but occasionally also in the Cyclades and at Miletus. The research project also includes pseudo-inscriptions and impressions left by Hieroglyphic seals on jar handles, whereas isolated signs are only included when they are logograms or could be originally part of a syllabic sequence.

The study was based on two different kinds of sources: 1) existing literature on the subject; 2) first-hand examination of the material, which is fundamental since the corpora available thus far (CHIC for Cretan Hieroglyphic, and GORILA for Linear A inscriptions) focus on inscriptions only. This means that in them the reader is rarely provided with pictures of the entire vessels or vessel fragments, and never with the drawings of the vessels.

First of all, I built a digital **database**, in which each file corresponds to each vase and contains information about the inscription (identification of the signs and palaeographic characteristics), the seal (only for the Hieroglyphic seal impressions on pottery), the vessel (shape, size, clay characteristics, other possible traces left on the clay), and the find-spot. This database is a useful tool to in the organization and management of data and for obtaining statistical data. In particular, it enables us to identify patterns of distribution and highlight relationships among the items.

Subsequently, I addressed issues related to the functions of the inscriptions, the social and economic status of the authors of the inscriptions, and their degree of literacy. A broadly archaeological approach to inscribed pottery, that is contextual, quantitative, and comparative, was very productive in this regard. First of all, because we have a greater variety in shapes and functions. As a consequence, examining evidence through the framework of agency does have the potential to identify and discuss actors in administrative, religious, ritual and ceremonial practices, as reflected by the permanent and deliberate signs they decided to leave on the pottery used in such activities. Moreover, through the paleographic analysis, inscriptions incised or painted on clay vessels can give us a good insight into both the writing ability of those individuals who made them and on their communicative potential.

The results of the project have been officially presented at the end of my Onassis Fellowship at the Aristotle University of Thessaloniki. The author also delivered a talk titled “**Agency and Literacy in Minoan Inscribed Pottery**” at the Minoan Seminar of Archaeological Society of Athens in January 2018.

A comparative and diachronic study aimed at assessing the textual evidence for categories related to counting, weighing and measuring commodities is forthcoming (**The Conceptualization of Measuring and Counting in the Bronze Age Aegean**, *Annali Istituto Italiano di Numismatica* 63, 2017), while a paper titled “**Distribution and functions of Minoan inscribed pottery and their consequences for the issue of literacy in the Bronze Age Aegean**” is still in preparation.