Petras, Siteia
The Pre- and Proto-palatial cemetery in context

Acts of a two-day conference held at the Danish Institute at Athens, 14-15 February 2015

Edited by
Metaxia Tsipopoulou

Monographs of the Danish Institute at Athens
Volume 21
This volume is dedicated to all those individuals who participated over the years in the excavation, conservation, study, site development and publication of the results.

This lofty vision for Petras and its region was made possible by their hard work, dedication and support.
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Front cover:
The Petras cemetery (photo M. Tsipopoulou) and Protopalatial silver signet ring from HT 9 (photo C. Papanikolopoulos)
Graphic design: Garifalia Kostopoulou and Metaxia Tsipopoulou
Back cover: Excavation of House Tomb 1, Room 6. Prof. S. Triantaphyllou (photo G. Kostopoulou).
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors/Editors</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>List of Contributors</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Preface</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Abbreviations</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Works Cited</td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>Greetings from Rune Frederiksen</td>
<td>Director Emeritus of the Danish Institute at Athens</td>
</tr>
<tr>
<td>56</td>
<td>Greetings from Kristina Winther-Jacobsen</td>
<td>Director of the Danish Institute at Athens</td>
</tr>
<tr>
<td>57</td>
<td>Documenting sociopolitical changes in Pre- and Proto-palatial Petras:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The house tomb cemetery</td>
<td>Metaxia Tsipopoulou</td>
</tr>
<tr>
<td>103</td>
<td>The Tripartite Façade at the Petras cemetery</td>
<td>Philip P. Betancourt, Metaxia Tsipopoulou and Miriam Clinton</td>
</tr>
<tr>
<td>111</td>
<td>Ceremonial Area 1: Identity and dating of a special ritual space in the Petras cemetery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Metaxia Tsipopoulou</td>
<td></td>
</tr>
<tr>
<td>131</td>
<td>Pottery fabrics and recipes in the later Pre- and Proto-palatial period at Petras:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The petrographic evidence from House Tomb 2 and Ceremonial Area 1</td>
<td>Eleni Nodarou</td>
</tr>
<tr>
<td>143</td>
<td>Further seals from the cemetery at Petras</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Olga Krzyszkowska</td>
<td></td>
</tr>
</tbody>
</table>
159 Variability and differentiation: A first look at the stone vase assemblage in the Petras cemetery
*Maria Relaki & Christina Tsoraki*

179 The Petras 'Sphinx'? An essay on hybridity
*Anna Simandiraki-Grimshaw*

195 The use of querns and other ground stone hand tools in Early to Middle Minoan mortuary practices at Petras
*Heidi M. C. Dierckx*

203 Special silver alloys from the Pre- and Proto-palatial cemetery of Petras, Crete
*Alessandra Giumlia-Mair, Philip P. Betancourt, Susan C. Ferrence, & James D. Muhly*

215 An intriguing set of discs from the Protopalatial tombs at Petras
*Thomas M. Brogan & Alessandra Giumlia-Mair*

225 The plant remains of the house tombs at Petras: Acts of destruction, transformation and preservation
*Evi Margaritis*

237 Feeding the dead, toasting the living? The view from faunal remains
*Valasia Isaakidou*

245 Male bonding and remembering the ancestors?
The Late Minoan III reoccupation and use of the Kephala-Petras Cemetery Area
*David W. Rupp*

269 The sea in the afterlife of the Minoans: The shell material from Petras cemetery in context
*Tatiana Theodoropoulou*

271 'Όσο ψηλά και αν ανεβείς λέξη μην πεις μεγάλη 'πο χώμα σε έφτιαξε ο θεός κι εκεία γυρίζεις πάλι'
Cretan *mantinada* for death
*Sevasti Triantaphyllou*

291 House Tomb 5: A preliminary analysis of the human skeletal remains
*Sevasti Triantaphyllou, Sotiria Kiorpe & Metaxia Tsipopoulou*
301 Compare and contrast: The house tomb at Myrtos-Pyrgos
Gerald Cadogan

311 Mortuary practices, the ideology of death and social organization of the Siteia area:
The Petras cemetery within its broader funerary landscape
Yiannis Papadatos

325 Mobility patterns and cultural identities in Pre- and Proto-palatial central
and eastern Crete
Efthymia Nikita, Sevi Triantaphyllou, Metaxia Tsipopoulou, Diamantis Panagiotopoulos,
Lefteris Platon

341 Pezoules Kephala, Zakros. I. Form of the tombs and burial habits
Lefteris Platon

355 Pezoules Kephala, Zakros. II. The chronological and evaluative position of the finds
in the framework of the life of the neighboring settlement
Lefteris Platon & Maria Tsiboukaki

369 Funerary practices at Sissi: The treatment of the body in the house tombs
Ilse Schoep, Isabelle Crevecoeur, Aurore Schmitt & Peter Tomkkins

385 Funerary ritual and social structure in the Old Palace period:
A multifarious liaison
Giorgos Vavouranakis

399 East Cretan networks in the Middle Bronze Age
Carl Knappett & Cristina Ichim

413 Final discussion
Chaired by Colin F. Macdonald

425 Final remarks: Some comments on the Pre- and Proto-palatial cemetery
and the Late Minoan IIIC settlement of Petras Kephala
Donald C. Haggis

437 Index
The conference participants gathered in the courtyard of the Danish Institute at Athens 15 February 2015
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## Abbreviations

### Archaeological periods

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBA</td>
<td>Early Bronze Age</td>
</tr>
<tr>
<td>EH</td>
<td>Early Helladic</td>
</tr>
<tr>
<td>EM</td>
<td>Early Minoan</td>
</tr>
<tr>
<td>FN</td>
<td>Final Neolithic</td>
</tr>
<tr>
<td>LH</td>
<td>Late Helladic</td>
</tr>
<tr>
<td>LM</td>
<td>Late Minoan</td>
</tr>
<tr>
<td>LN</td>
<td>Late Neolithic</td>
</tr>
<tr>
<td>LBA</td>
<td>Late Bronze Age</td>
</tr>
<tr>
<td>MBA</td>
<td>Middle Bronze Age</td>
</tr>
<tr>
<td>MH</td>
<td>Middle Helladic</td>
</tr>
<tr>
<td>MM</td>
<td>Middle Minoan</td>
</tr>
<tr>
<td>MN</td>
<td>Middle Neolithic</td>
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</table>

### Other

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSOU</td>
<td>Petras Rock Shelter</td>
</tr>
<tr>
<td>Σ-palace</td>
<td>Stratigraphical trenches of the palace</td>
</tr>
<tr>
<td>W</td>
<td>Wall</td>
</tr>
<tr>
<td>A.S.L.</td>
<td>Above Sea Level</td>
</tr>
<tr>
<td>diam.</td>
<td>diameter</td>
</tr>
<tr>
<td>gr</td>
<td>gram</td>
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<tr>
<td>h</td>
<td>height</td>
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<tr>
<td>kg</td>
<td>kilogram</td>
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<tr>
<td>w</td>
<td>width</td>
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<td>wt</td>
<td>weight</td>
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<tr>
<td>th</td>
<td>thickness</td>
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<tr>
<td>lt</td>
<td>liter</td>
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<tr>
<td>MMD</td>
<td>Mean Measure of Divergence</td>
</tr>
<tr>
<td>MNI</td>
<td>Minimum Number of Individuals</td>
</tr>
<tr>
<td>NISP</td>
<td>Number of Identifiable Specimens</td>
</tr>
<tr>
<td>SM</td>
<td>Archaeological Museum, Siteia</td>
</tr>
<tr>
<td>vol.</td>
<td>volume</td>
</tr>
</tbody>
</table>

The form of the English language for the native speakers (British or American) was the author’s choice. For the non-native speakers the American form was used.
Bibliographic Abbreviations

AAA – Archaiologika Analekta Athinon
ActaPalaeobot – Acta Palaiobotanica
AJA – American Journal of Archaeology
AJPA – American Journal of Physical Anthropology
AJS – American Journal of Sociology
AmHumBiol – American Journal of Human Biology
AR – Archaeological Reports
Arachne – (on-line access to the CMS, with corrected information and enhanced illustrations) http://arachne.uni-koeln.de/drupal/?q=de/node/access date March 2016.
ArchDelt – Archaeologikon Deltion
ArchEph – Archaeologike Ephemeris
ASAtene – Annuario della Scuola Archeologica Italiana di Atene
BAR-IS – British Archaeological Reports, International Series
BCH – Bulletin se correspondance hellénique
BICS – Bulletin of the Institute of Classical Studies of the University of London
BSA – Annual of the British School at Athens

CMS – Corpus der minoischen und mykenischen Siegel, Berlin 1964-2000, Mainz 2002-
CretChron – Kretika Chronika

EtCret – Études Crétoises

JAS – Journal of Archaeological Science
JMA – Journal of Mediterranean Archaeology
Kentro – Kentro: The Newsletter of the INSTAP Study Center for East Crete

MA – Monumenti Antichi

OJA – Oxford Journal of Archaeology
Prakt – Praktika tes en Athenais Archaeologikes Etaireias
SIMA – Studies in Mediterranean Archaeology
SMEA – Studi Micenei ed Egeo-Anatolici


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The use of querns and other ground stone hand tools in Early to Middle Minoan mortuary practices at Petras

Heidi M. C. Dierckx

Abstract
As a result of the intensive collection of finds, the Early to Middle Minoan cemetery at Petras has yielded numerous ground stone tools in primary contexts from the House Tombs. The significance of such a complete assemblage from the EM I–MM II tombs is paramount in understanding mortuary practices of this period. This paper focuses on the distribution and contexts within the tombs of querns and other hand tools to determine the meaning behind the use of the tools in Early to Middle Minoan burial practices. While some querns may have been used as “pillows” in the actual burial of the deceased, other tools belonged to the burial kit of the deceased.

Many ground stone tools were recovered from the EM–MM II house tombs at the cemetery at Petras. This paper focuses on the preliminary observations of the ground stone tools, comprising quern fragments, whetstones, polishers and pestles in a funerary context recovered from five house tombs, namely House Tombs 2, 3, 5, 9 and 10.

In general, as a result of the intensive excavation of the cemetery, three contexts can be distinguished for the provenance of the ground stone tools from the Petras Cemetery. Many of the tools, especially quern fragments, came from contexts not associated with the burials: they were used in the walls as building material, as is also evidenced in many other Minoan sites. Others, however, albeit fewer in number, were recovered within some of the rooms in the house tombs; some were found in rooms associated with human bones, while others in areas or rooms associated with other finds such as pottery but not with burials, the latter including areas identified as ceremonial areas. The aim of this paper is to explore the connection between certain ground stone implements and actual burials.

I would like the readers to keep in mind the following statement. Ground stone implements, in comparison to other artefacts, are ambiguous by nature as to the interpretation of activities they performed. They are simple stone tools found mainly on settlement sites. Except for certain large objects such as querns and mortars (generally seen as being used in domestic contexts), many of the tools can only be...
<table>
<thead>
<tr>
<th>Table 1. Number of ground stone tools associated with burials from Petras house tombs.</th>
<th>Bones</th>
<th>Ground stone</th>
<th>Obsidian</th>
<th>Other</th>
</tr>
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<tbody>
<tr>
<td>HT 2 Room 2</td>
<td></td>
<td>2 querns</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>1 polisher</td>
<td></td>
<td></td>
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<tr>
<td>HT 2 Room 3</td>
<td></td>
<td>5 querns</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>1 polisher</td>
<td></td>
<td></td>
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<tr>
<td>HT 3 Room 4, Level 13</td>
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<td>6 querns</td>
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<td>Locus 3</td>
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<td>2 querns</td>
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<td>pottery</td>
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<td></td>
<td></td>
<td>2 polishers</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 whetstone</td>
<td></td>
<td></td>
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<tr>
<td>HT 4 Room 1</td>
<td></td>
<td>1 pounding platform</td>
<td></td>
<td>pottery</td>
</tr>
<tr>
<td>HT 4 Room 5</td>
<td></td>
<td>2 querns</td>
<td></td>
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<tr>
<td>HT 5 Room 9, Level 8</td>
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<tr>
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<td></td>
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<td></td>
<td></td>
<td>1 pounder</td>
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<td></td>
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<tr>
<td>HT 5 Room 10, Level 6-7</td>
<td></td>
<td>1 quern</td>
<td></td>
<td></td>
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<tr>
<td>Level 8</td>
<td></td>
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<td>1 quartz</td>
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<tr>
<td>HT 9 Room 1, Level 10/12</td>
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<td>1 quartz</td>
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<td>1 stone vessel fragment</td>
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<td>1 quartz</td>
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<td>2 whetstones</td>
<td>pottery</td>
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<td></td>
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<td>1 polisher – South part</td>
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<tr>
<td>HT 10 Room 2, Level 3-4</td>
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<td>1 grinder</td>
<td></td>
<td>pottery</td>
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<tr>
<td>Level 8-11</td>
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<td>2 pestles</td>
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<tr>
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<td>2 querns – East part</td>
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<td></td>
<td></td>
<td>1 whetstone – East part</td>
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<td></td>
<td></td>
<td>2 polisher</td>
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<tr>
<td></td>
<td></td>
<td>1 anvil/mold</td>
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characterized as having the function of pounding and/or abrading. Specifics as to their exact function in certain activities, other than as generally domestic or industrial activities, depending on contextual evidence, is harder to determine. Many tools were in fact multi-functional and therefore it is context, not the implements themselves, that define their use. Even then, it is difficult to determine with certainty the specific activities in which they were utilized.

In this light, as one can see from Table 1, the ground stone tools associated with human remains so far were recovered from House Tombs 2, 3, 5, 9, and 10. The tools comprised querns, whetstones, polishers and pestles. Of these, very few querns have been recorded in burial contexts and of those recorded it is not clear whether these were associated with human remains. At Petras all stone tools were collected and documented very carefully, so it is unlikely that any of them have escaped the attention of the excavators. So the question remains: what was the function or reason for the quern fragments in burial contexts at Petras?

In a previous article, I had suggested that the broken querns in connection with the Rock Shelter and House Tomb 2 were “ritually killed”, thus rendering them useless. Ritual “killing” or intentional destruction of artefacts – pottery, broken vessels and weapons – is widely recorded in the Aegean. It has already been suggested that the deposition of artefacts with the dead is in itself a form of “killing” of death., of

Fig. 1. Broken querns from Petras House Tombs. a) 16.8 cm; b) 19.1 cm; c) 16 cm; d) 16.3 cm. Photo H. Dierckx & A. Psychas.

Fig. 2. Querns from the Petras House Tombs. a) 22.5 cm; b) 29.5 cm; c) 25.8 cm; d) 22.5 cm; e) 24.3 cm; f) 21.4 cm; g) 25.2 cm. Photo H. Dierckx & A. Psychas.

1 Dierckx 2012, 174-175.
termination of the social life of a specific object. But the additional destruction of the object adds a more dramatic element of the ritual, “a more powerful performative embodying experience.” After examination of numerous querns from House Tombs 2, 3, 5, 9 and 10, differences based on shape, size and/or preservation could be noticed. Some querns were half preserved and less than 20 cm in length (Fig. 1). I must also mention that only the one half of the tool was recovered. There was no evidence of the other half. These I would suggest were “ritually killed” and formed part of the personal burial assemblage of the dead.

On the other hand, the other querns were complete or mostly complete, being chipped at the edges or ends. In general these were the larger-sized oblong querns, including saddle-shaped querns, and were larger than 20 cm in length (Fig. 2). Additional evidence comes from House Tomb 3 Room 4, where one such quern was found in association with a skull (Fig. 2d). A possible interpretation of the use of this quern was as a “pillow” for the deceased. This example may suggest that some of the other querns found in the other tombs also could have been used as “pillows”. The slightly concave shape of the upper surface of the querns would provide a nice head rest for the skull. Note also that the burials in all the rooms were in a secondary context, meaning that any artifacts associated with the burials would have been moved along with the bones. Although not querns per se, similarly, in the Cyclades, specifically in Naxos and Syros, stone slabs or stones were found to play the role of a “pillow”, upon which the head of the dead rested. A few examples occur from the Early Bronze Age cemetery of Hagios Kosmas on the mainland of the skull slightly raised and resting on a stone. Doumas suggested that the use of the “pillow” stone in certain Cycladic tombs may indicate certain concepts about the head. While the half-preserved querns might be considered as having a ritual function, the larger complete querns were perhaps used as “pillows” and, in the case of the large querns which were chipped at the ends, were ritually “killed” before being used as such. Querns as “pillows” would also provide extra support for the head of the deceased.

Of the other ground stone tools, whetstones appear to be the most common in most Minoan burials. Most of the whetstones recorded consist of finely-worked oblong and flat stones with a suspension hole at the top. But this is not the case at Petras, where the whetstones are of the type found in settle-

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2 Chapman 1994, 52.
3 Hamilakis 1998, 122.
6 Doumas 1987, 18.
ments. These were generally oblong or rectangular cobbles with a flattish section (Fig. 3). In fact, the closest parallel in Crete as regards similar assemblages of tools is found at Hagia Photia.\(^7\) Here, as at Petras, some tombs, especially Tomb 216, contained an assemblage of whetstones, polishers, grinders/rubbers and pestles. Unfortunately, details of the Hagia Photia ground stone tools are not available. What is interesting however is the fact that the same types of tools are present in the tombs. Even though the assemblages in the Petras tombs also included one or two examples of grinders/rubbers and pounders, I would like to concentrate on the whetstones and polishers, which were more abundant. Whetstones and polishers have in common the fact that both are abrading tools. Generally, they are seen, depending on context, as related to the activities of sharpening and polishing metal objects, but can also be used in the abrading and polishing of stone vessels and objects. What their significance is as burial objects is unclear, as personal possessions of the deceased or as an indicator of the profession of the deceased. One has to consider these tools in association with other artifacts, such as metal tools and weapons or stone vessels, or other stone artifacts with which they are buried. This can prove to be difficult too, especially since the burials were not in their primary context and the artifacts may have been displaced. At Petras, in House Tomb 10, Room 2, the whetstone and two polishers were associated with another tool identified as an anvil or mold, used in metallurgy. In this case, the whetstone and polishers may have been part of a metallurgical kit. The polishers especially are of a rounded, triangular shape and small size with abraded bases, similar to the pestles discussed below, which would be ideal for hammering or polishing metal objects.

In general, however, any of the ground stone tools in funerary contexts can be considered as secular objects used in daily life of the deceased. In House Tomb 9 the ground stone tool assemblage consisted of whetstones, polishers and querns, while in House Tomb 5 there was additionally one example of a grinder or pounder. It is interesting to note that, as with the querns, most of the whetstones were half-preserved, suggesting that they may also have been ritually “killed”.

Two very interesting stone objects were recovered from House Tomb 10, Room 2 (Fig. 4 e–f). Based on shape alone these resemble objects generally interpreted as pestles. Both tools are elongated pyramidal shapes with a rounded groove at the top, with the left side of the Pestle being more worn than the right. The Pestle was found in Room 2 of House Tomb 10, while the other example was found in House Tomb 11, Room 1. These objects are unique and provide further evidence for the use of ground stone tools in daily life.

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Fig. 4. Stone tools from House Tomb 10, Room 2. a) anvil/mould; b) whetstone; c) and d) polishers; e) and f) pestles. Photo H. Dierckx & A. Psychas.
on which the index finger would rest if it were to be used. Both are finely worked and polished with attention given to the shaping of the four corners, with no signs of use wear. One is made from mottled white and gray marble and the other from meta-andesite, respectively 8.8 x 4.7 x 3.3 cm and 7.2 x 4.6 x 3.7 cm in size. While there are no parallels recorded from cemeteries, published examples are known from Minoan palace and settlement sites, from Malia, Phaistos, the Unexplored Mansion at Knossos, Gournia and Palaikastro.\(^8\) These examples range between 7 and 10 cm in height, 4.5 and 5 cm in width/diameter, and are made from marble, breccia and other igneous rock varieties, while their shape varies from cylindrical to more pyramidal. Similar to these in size and raw material are the tapered cylindrical pestle-type with no groove at the top, which were also deliberately fashioned into shape. While a few can be found in the palace and settlement sites of Malia, Knossos, and Zakros,\(^9\) they can also be found as funerary offerings in the Cyclades, made from marble, and used for the grinding of pigments and in some cases associated with a palette or bowl.\(^10\)

The only pestle from a burial context in Crete comes from Tholos Tomb Gamma at Phourni, Archanes. Its shape is different, though, being an untapered cylindrical example with flat ends.\(^11\) One can say, however, that pestles of both types (shape and material) are rare on Crete. The raw materials, marble and hard igneous rock varieties, are local to Crete, but are rarely used, except for stone vessels or special objects of generally non-domestic importance.

While the size and shape of these pestles, including the examples with a groove, could lead to them being considered as balance weights,\(^12\) I see their uniqueness in shape and the rounded groove at the top as pointing to them being pestles used in a specific function. Deliberately fashioned pestles, with or without groove, have been found at several metallurgical sites (Unexplored Mansion of Knossos and Quartier Mu at Malia) and would have been useful as hammers in shaping metal objects.\(^13\) Other stone tools associated with the two stone pestles in House Tomb 10, as mentioned above, were two querns, a grinder, a whetstone, two polishers and a mold/anvil. Furthermore, other finds included votive scale pans.\(^14\) Perhaps all the stone objects and tools should be seen as part of an assemblage of objects representing the belongings of an artisan specialized in metallurgy.

In conclusion, ground stone implements of secular nature such as querns, whetstones, polishers and pestles appear to also have had an important ritual function in the mortuary practices at the Early to Middle Minoan cemetery at Petras.

\(^8\) From Malia, Van Effenterre 1980, 108, fig., 149; from Phaistos, MM II, Pernier & Banti 1935, 235, Fig. 112; from the Unexplored Mansion at Knossos, LMII, Evely 1984, 59, 225, M40, pl. 209.13; from Gournia, MM III–LM II, Boyd-Hawes et al. 1908, pl. III, no. 14 and 15; from Palaikastro, LM IB, Sackett & Popham 1984, 314 no. 104, pl. 80b, fig. 2.


\(^10\) Metropolitan Museum of Art, online collection, no. 1997.70; Getz-Gentle 1996, 79, pl. 5b, pl. 35a.

\(^11\) Papadatos 2005, 46, fig. 27, pl. 20.

\(^12\) The weights of the two objects are 243 gr. and 188 gr. respectively, closely divisible by the claimed Minoan unit of 60 gr. for the value of X: X= 4.05 and X = 3.1.

\(^13\) Clarke 2013, 82.

\(^14\) Cf. Brogan & Giulimia-Mair this volume.
Discussion

Relaki: About the object you showed from HT10, I think it is the same type of stone that we have in the bird nest bowl from the same context, and as far as I know these are the only examples from the cemetery of this type of stone.

Muhly: I believe this object was a hammer.

Dierckx: It is not easy to tell whether this tool was ever used or not.

Giumlia-Mair: Do you know the hardness of this stone?

Dierckx: The marble is about 3-4. The metaandesite is quite a bit harder, more like 6-7.

MacGillivray: In relation to what others have observed, for instance Maria Relaki about the stone vases that were intentionally broken, do you believe that the querns were broken because of intensive use, they were worn out, or were they intentionally broken? Can you tell whether they were used for a long time?

Dierckx: They usually do not display evidence of hard use.

MacGillivray: So they could have been used just for funerary purposes?

Dierckx: Yes.

MacGillivray: That is very interesting.

Papadatos: Is it possible that some of these querns were just found thrown in the area of the cemetery because of the existence of the settlement in the vicinity?

Dierckx: It is possible but I have tried to separate those that were found in the funerary chambers and those that were used as building material and had fallen from the walls.

Papadatos: Still, it is possible that even those found with the bones could have been reused.

Dierckx: Yes.

Greek abstract

Η χρήση τριβείων, βαριδιών και άλλων λίθινων εργαλείων χειρός στις ταφικές πρακτικές της Πρωτο- και Μεσο-μινωϊκής περιόδου στον Πετρά
Η συστηματική συλλογή των ευρημάτων της ανασκαφής του Προ- και Παλαιο-ανακτορικού νεκροταφείου του Πετρά έχει αποδώσει πολυάριθμα λίθινα εργαλεία και βαρίδια σε πρωτογενείς περιβάλλον από τα ταφικά κτίρια και τη Βραχοσκεπή. Η σημασία ενός τόσον πλήρους συνόλου χρονολογημένου από τάφους της ΠΜ I έως ΜΜ II, είναι μοναδική για την κατανόηση των ταφικών πρακτικών της περιόδου. Η παρούσα ανακοίνωση

Heidi M. C. Dierckx  •  The use of querns and other ground stone hand tools 201
επικεντρώνεται στην κατανομή και τις συνάφειες, τόσον εντός, όσον και εκτός των τάφων, των τριβείων, των βαριδιών και των άλλων εργαλείων χειρός για τον καθορισμό της σημασίας πίσω από τη χρήση των εργαλείων στις Πρωτο- και Μεσο-μινωικές ταφικές πρακτικές. Ενώ μερικά τριβεία είχαν χρησιμοποιηθεί ως “προσκεφάλαια” στις ταφές των νεκρών, τα βαρίδια και τα λοιπά εργαλεία θα μπορούσαν να ανήκουν στα κτερίσματα, ή ακόμα να είχαν χρησιμοποιηθεί για την παρασκευή νεκροδείπνων πριν από τις ταφές.

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202 Monographs of the Danish Institute at Athens. Volume 21