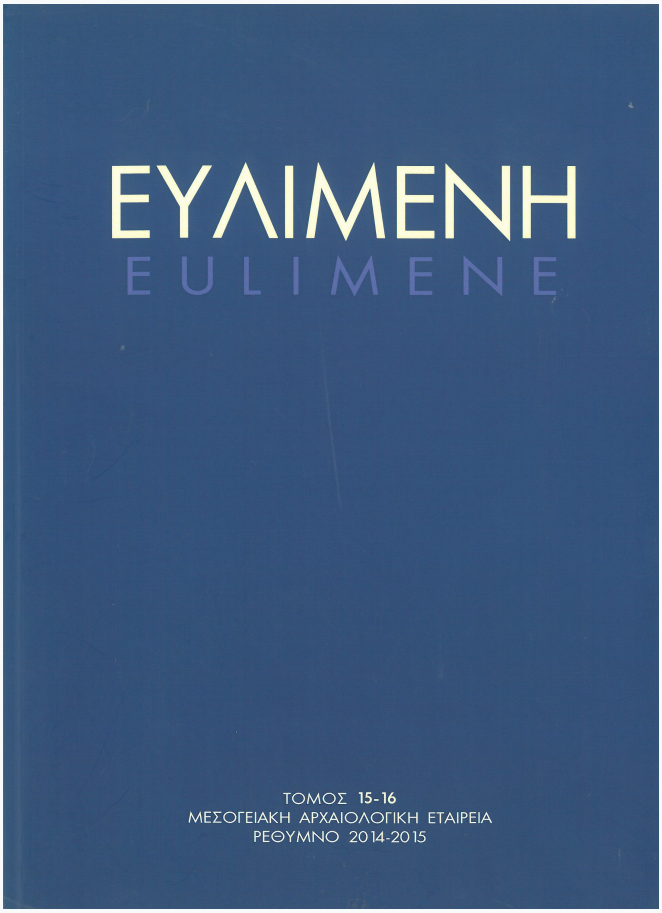
EULIMENE

Vol 15 (2014)

EULIMENE 15-16 (2014-2015)



Hand mills from the vicinity of the Athenian Acropolis. The findings from Athens Metropolitan Railway excavation

Eirene Poupaki

doi: 10.12681/eul.32808

ΕΥΛΙΜΕΝΗ

ΜΕΛΕΤΕΣ ΣΤΗΝ ΚΛΑΣΙΚΗ ΑΡΧΑΙΟΛΟΓΙΑ,
ΤΗΝ ΕΠΙΓΡΑΦΙΚΗ, ΤΗ ΝΟΜΙΣΜΑΤΙΚΗ ΚΑΙ ΤΗΝ ΠΑΠΥΡΟΛΟΓΙΑ

Τόμος 15-16
Μεσογειακή Αρχαιολογική Εταιρεία
Ρέθυμνο 2014-2015

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ΕΥΛΙΜΕΝΗ
EULIMENE 2014-2015
ISSN: 1108–5800

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Eirene Poupaki, Hand mills from the vicinity of the Athenian Acropolis. The findings from Athens Metropolitan Railway excavations, *ΕΥΛΙΜΕΝΗ* 15-16 (2014-2015), 11-53.

Χειρόμυλοι από την περιοχή της αθηναϊκής Ακρόπολης. Τα ευρήματα από τις ανασκαφές του αθηναϊκού ΜΕΤΡΟ. Το παρόν άρθρο αποτελεί προκαταρκτική παρουσίαση των χειρομύλων για την άλεση των δημητριακών που εντοπίστηκαν κατά την ανασκαφική έρευνα στο οικόπεδο Μακρυγιάννη, στους πρόποδες της Αθηναϊκής Ακρόπολης, την οποία διενήργησε η πρώην Α΄ Εφορεία Προϊστορικών και Κλασικών Αρχαιοτήτων πριν από την κατασκευή του Σταθμού του ΜΕΤΡΟ «Ακρόπολις». Η έρευνα επικεντρώνεται στους χειρόμυλους παλινδρομικής κίνησης, τους χειρόμυλους «ολυνθιακού τύπου» και στους περιστροφικούς χειρόμυλους, οι οποίοι ήρθαν στο φως κατά την ανασκαφή, όχι κατά χώραν, αλλά είτε ανασύρθηκαν από επιχώσεις διαφόρων χρονικών περιόδων, κυρίως αρχαίων φρεάτων και δεξαμενών, είτε είχαν εντοιχισθεί σε τοιχοποιίες ή θεμελιώσεις διαφόρων κτιρίων. Αυτοί οι χειρόμυλοι ήταν κατασκευασμένοι από ηφαιστειακά πετρώματα άγνωστης προέλευσης, δεδομένου ότι δεν έχουν διενεργηθεί έως σήμερα πετρολογικές αναλύσεις. Οι μυλόλιθοι παλινδρομικής κίνησης «σαμαρωτού τύπου» και οι μυλόλιθοι «ολυνθιακού τύπου» αποτελούν την πλειονότητα των αντικειμένων που μελετήθηκαν και χρονολογούνται σε γενικές γραμμές από την προϊστορική εποχή έως τη ρωμαϊκή περίοδο, ενώ οι περιστροφικοί χειρόμυλοι είναι σπάνιοι. Επιχειρείται η χρονολόγηση των αθηναϊκών χειρομύλων της ανασκαφής με βάση τη σύγκρισή τους με ήδη δημοσιευμένα παράλληλα από άλλες περιοχές, τη χρονολόγηση της στρωματογραφίας της ανασκαφής και τα καλά χρονολογημένα συνευρήματά τους. Τέλος, σκιαγραφείται μία πτυχή της καθημερινής ζωής των κατοίκων της περιοχής, που κατά μερικούς ερευνητές ταυτίζεται με το Αθηναϊκό Δήμο του Κολλυτού.

Nikos Panagiotakis – Marina Panagiotaki, *Kefala* between Skopela and Gournes: A possible Greek sanctuary, *ΕΥΛΙΜΕΝΗ* 15-16 (2014-2015), 55-66.

Η Κεφάλα μεταξύ Σκοπέλας και Γουρνών: ένα πιθανό ιερό ελληνικών χρόνων. Αρχιτεκτονικά κατάλοιπα που εντοπίστηκαν στον λόφο Κεφάλα στη βόρεια-κεντρική Κρήτη κατά την επιφανειακή έρευνα *The Pediada Survey Project*, ανήκουν μάλλον σε κάποιο ιερό ελληνικών χρόνων παρά σε μια ακρόπολη ή ένα οχυρό. Την ταύτιση με το πρώτο ενισχύουν το χαμηλό ύψος του λόφου και η εύκολη πρόσβαση στην κορυφή από τα νότια, καθώς και το επιπεδοποιημένο πλάτωμα που τα αρχιτεκτονικά κατάλοιπα ορίζουν. Η ταύτιση των αρχιτεκτονικών καταλοίπων με ιερό ενισχύεται επίσης από την γεωγραφική θέση της Κεφάλας, κατά πάσα πιθανότητα, στα όρια των μεγάλων πόλεων-κρατών της Κνωσού και της Λύκτου-Χερσονήσου, αλλά και την καλής ποιότητας κεραμική που σχετίζεται με αυτά.

Απόστολος Δ. Θάνος, Ο ζωγράφος του Τάλω. Παρατηρήσεις στα έργα ενός αγγειογράφου του τέλους του 5ου αι. π.Χ., *ΕΥΛΙΜΕΝΗ* 15-16 (2014-2015), 67-100.

The Talos painter. Remarks on the works of a late 5th century B.C. vase-painter. The subject of the present article is the works of Talos Painter. The specific painter, whose action is confined in the last decades of the fifth century B.C. and early fourth century B.C., is one of the main representatives of the "Rich Style". The conventional name "Talos Painter" was given to the vase painter by J.D. Beazley due to the depiction of the mythical bronze giant Talos on the main side of the volute crater that was found in the necropolis of Ruvo in Apulia.

In the first part of the article the stylistic characteristics are examined in order to clarify his artistic "identity". The analysis of those stylistic characteristics has facilitated the re-examination of older attributions of certain vases.

Following this the types of vases decorated by the Talos Painter were examined. From the study of the available material, it seems that he preferred large vases, especially craters and loutrophoroi and also amphora of Panathenaic type, nuptials lebes, hydries and pelikes. The representations decorating those vases have also been examined and analyzed.

Finally, the article concludes with the examination of his apprenticeship and his collaboration with other painters. This examination can lead to the suggestion that the Talos Painter could have been an apprentice to Meidias Painter and also that he co-existed for a certain period in the same workshop with the Modica Painter.

Εριφύλη Κανίνια, Χρυσά στεφάνια με φύλλα κισσού από τις αρχαίες ροδιακές νεκροπόλεις, *ΕΥΛΙΜΕΝΗ* 15-16 (2014-2015), 101-119.

Gold wreaths with ivy leaves from the nekropoleis of the Rhodian State. The nekropoleis over the greater area of the Rhodian State yielded a considerable number of pure gold wreaths, unfortunately most of them in fragmentary condition. Among them, two gold wreaths with ivy leaves, preserved mostly intact, are of special interest: the wreath from Megisti (Kastellorizo), now housed in the National Archaeological Museum, Athens (cat. no. Χρ 1058) and one wreath found during rescue excavation in the eastern necropolis of Rhodes (Rhodes Museum, cat. no. M 1529).

The gold wreath from Kastellorizo, found in 1913 by three residents of the island on the plateau of Hagios Georgios tou Vounou, was handed over to the archaeologist Nikolaos Kyparissis and transferred to the National Museum in Athens as a gift to the motherland from a humble faraway corner of Greek soil. Regarding its date, a first, rather early evaluation is based on its typological similarities with the excavated wreaths from Sevasti (Thessaloniki Museum, cat. no. ΜΔ 2579) and Apollonia (Thessaloniki Museum, cat. no. ΑΠΟ 662), which date to the middle and the third quarter of the 4th cent. B.C. respectively. However, certain construction innovations, already adopted in the Kastellorizo wreath (gold ribbon-shaped stalks, small tubes soldered on the circular stem for the stalks to fit into, the delicate flower sprays instead of steady corymbs etc.), are also encountered in the ivy wreath of Rhodes Museum M 1529 with gold ribbon-shaped leaf-bearing strip; since the latter was found in a stone casket *(osteotheke)*, its earliest date is estimated at shortly before the middle of the 3rd cent. B.C. It would, therefore, be appropriate to

lower the date of the Kastellorizo wreath to the final years of the 4th or rather the early 3rd cent B.C. The wreath from Kastellorizo exudes the simplicity of a classical construction (we might characterize it as a work of art) and at the same time, it is enveloped in an aura of a more delicate movement, a subtle playfulness, a concept of wealth, which precisely characterizes a hellenistic creation.

It is doubtful whether the rather unskilled work connecting the two parts of the circular stem of the Kastellorizo wreath with twisted wire is original; the two parts may have originally been joined by a flexible ornamental element (Heraklean knot or double twined wire) or the circular stem may have been constructed as a single piece and the wire coil at the front of the wreath which keeps the two parts of the stem together may be an ancient repair. A close inspection of the stemless and somehow damaged heart-shaped leaflet which ornaments the top of the Kastellorizo wreath (now stuck on site with resin) showed that it did not originally belonged to this wreath and most probably it was used (obviously "recycled" from another wreath) to disguise the ancient repair.

On the other hand, the ivy wreath of Rhodes Museum M 1529, seems to be a fine specimen of a massive production, during which the constituent parts of a wreath were made separately and, eventually, assembled according to the wishes of the clientele; this practice may be thought as typical of the vigorous commercial activity in the Hellenistic Rhodian State. Thus, the two ivy wreaths represent two different stages of constructional conception within the chronological framework between the final years of the 4th and the middle of the 3rd cent. B.C.

The two ivy wreaths from the nekropoleis of the ancient Rhodian State (together with a third one, still unpublished, found recently during rescue excavation in the Rhodian nekropolis) constitute a relatively large proportion of the totally ten known pure gold wreaths with ivy leaves; the rarity of ivy wreaths is probably mainly due to the fact that it takes more gold sheets to fabricate heart-shaped ivy leaves than lanceolate myrtle ones. Also, the cost of ivy leaves would have been higher by the additional material and work required to reinforce the support of the sizeable heart-shaped leaves. However, it seems that the wealthy middle class Rhodian society of the Hellenistic time, largely familiar with the cult of Dionysos – obviously under the influence of the active *koinon of Dionysiastai*– could possibly afford the purchase of an ivy wreath. The rather large proportion of ivy leaf wreaths found in the nekropoleis of the ancient Rhodian State could also be associated with the chthonic aspect of the cult of Dionysos, which appears to have been widespread in Rhodes as demonstrated by a series of finds and, most importantly, the relief representations of the Dionysiac procession on the grave complexes at Korakonero (Bilde 1999, 227 ff.).

† **Γιώργος Δεσπίνης**, Πλακούντες ιδιόσχημοι, *ΕΥΛΙΜΕΝΗ* 15-16 (2014-2015), 121-130.

In der vorliegenden Untersuchung wird das Deutungsproblem behandelt, das die Darstellungen auf einer Gruppe von Weihreliefsaufwerfen, die aus Attika stamen und sehr wahrscheinlich alle ins 4. Jahrhundert v. Chr. zu datieren sind. Auf diesen Reliefs sind ein, zwei oder dreigleichartige Motive nebeneinander dargestellt, die aus zwei sich X-förmigkreuzenden, schwacheingetieften Elementen bestehen. Auf den abgerundeten Enden erkennt man in Relief dargestellte oder eingeritzte Mondsicheln und auf dem Kreuzungspunkt einen plastischen Knopf.

S.A. Koumanoudis erwog in seiner 1862 erschienenen Publikation eines dieser Reliefs, das eine Weihinschrift für Demeter und Kore besitzt, dass hier eine Art von Backwerk dargestellt sein könnte, ein Vorschlag, dem die jüngere Forschung mit Zurückhaltung gegenüber tritt. Verf. stimmt Koumanoudis dagegen zu und erkennt in den Reliefdarstellungen ein Backwerk, das in der antiken Literaturals *κρηπίδες* bezeichnet wird. Bei Polydeukes und Hesychios ist überliefert, dass diese *κρηπίδες* eine den Schuhsohlenähnliche Form besaßen, von denen sich auch der Name herleitet. Die Kuchen bestanden aus Mehl und Honig und waren *ἔγχυτοι*, was bedeutet, dass der Teig in Formen gegossen wurde. Nach dem sie aus der Form genommen worden waren, wurden sie vor dem Ausbacken über Kreuz angeordnet und an den Enden mit den Mondsicheln so wie auf dem Kreuzungspunkt mit einem Knopf versehen. Wie Polydeukes berichtet, wurde das Backwerk in Stücke gebrochen und zusammen mit Geflügelbrühe verzehrt. Auf das Gebäck wurde auch auf Holzkohlen feuergegrilltes Geflügel gelegt, das alserstes verspeist wurde. Für die eigenartige Kombination von süßem Backwerk mit Geflügel brühe verweist Verf. auf ein modern griechische Süßigkeit, zu deren Zutaten neben Mehl, Zucker und Milch auch gekochtes Hühnerb fleisch gehört.

Eleni K. Tziligkaki, A quarry-mark from ancient Thera, *ΕΥΛΙΜΕΝΗ* 15-16 (2014-2015), 131-148.

Ένα λιθουργικό σήμα από την αρχαία Θήρα. Οι επαφές μεταξύ Κρήτης και Θήρας κατά την ανατολίζουσα και αρχαϊκή περίοδο, επιβεβαιωμένες από τον Ηρόδοτο, την κεραμική και τη γλυπτική, ενισχύονται επιπλέον από δύο «λιθουργικά σήματα» σε λατομεία των δύο νησιών. Ένα λατομικό σήμα στον τύπο του Παραθύρου ή της Πύλης είχε χαραχθεί σε λατομείο του 7ου αι. π.Χ. στο όρος Προφήτης Ηλίας στη Θήρα. Ο αρχαϊκός χαρακτήρας της θέσης σε συνδυασμό με την παντελή απουσία του τύπου του Παραθύρου στο σύνολο των λιθουργικών σημάτων του ΥΜ Ι οικισμού του Ακρωτηρίου, αποκλείουν την πιθανότητα μινωικής χρονολόγησης. Υπ' αυτήν την έννοια, στην παρούσα εργασία υποστηρίζεται ο αρχαϊκός χαρακτήρας στο τμήμα του λατομείου «Στα Σκαριά» Παλαικάστρου Κρήτης, στο οποίο είναι χαραγμένο ένα λατομικό σήμα επίσης στον τύπο του Παραθύρου. Δεν είναι πρωτοφανής άλλωστε η επιβίωση συμβόλων της Εποχής του Χαλκού στην αρχαϊκή περίοδο. Αυτά τα λατομικά σήματα θα μπορούσαν να ερμηνευθούν ως ενδείξεις μιας κομπανίας χτιστών, οι οποίοι μετακινούνταν από μέρος σε μέρος κατά παραγγελία. Παράλληλα προσφέρονται από την Αθήνα του 4ου αι. π.Χ. αλλά και από τα «μπουλούκια» των παραδοσιακών χτιστών στην ηπειρωτική Ελλάδα από τον 18ο αιώνα έως τα μέσα της δεκαετίας του '60. Μια πιθανή θαλάσσια διαδρομή μεταξύ της Θήρας του 7ου αι. π.Χ. και των ανατολικών ακτών της Κρήτης απηχείται στον Ηρόδοτο (4.151-152). Αρχαϊκά μαρμάρινα γλυπτά από τη Θήρα με επιρροές από την ανατολίζουσα γλυπτική της Κρήτης, θηραϊκή κεραμική στην Κρήτη σε θέσεις εγγύς κοιτασμάτων λευκού μαρμάρου, και οι εμπορικές επαφές της Θήρας με την Αξό, η επικράτεια της οποίας εμφανίζει μαρμαροφορία, συμπληρώνουν την εικόνα της κινητικότητας Κρητών γλυπτών και αρχιτεκτόνων κατά τον 7ο και 6ο αι. π.Χ.

HAND MILLS FROM THE VICINITY OF THE ATHENIAN ACROPOLIS. FINDS FROM ATHENS METROPOLITAN RAILWAY EXCAVATIONS*

INTRODUCTION

The archaeological excavation conducted in the years 1993-1996 by the 1st Ephorate of Prehistoric and Classical Antiquities of Athens,[1] in the area of the south slope of the Athenian Acropolis (**fig. 1**), took place before the construction of the Athenian Metropolitan Railway (METRO) Station "Acropolis", in the public plot of Makrygiannis and the surrounding streets.[2] The site is known for the recently inaugurated New Acropolis Museum and the old military hospital, known as *Weiler* building, where the Centre of Acropolis' Studies resides.[3] In the same area there was, also, the old building of the gendarmerie, which was demolished before the start of the excavation. The archaeological investigation of the area (**fig. 2**) has brought to light

* The presented material was studied with the permission of the Directorate of Prehistoric and Classical Antiquities of the Greek Ministry of Culture after the relevant recommendation of the A΄ Ephorate of Prehistoric and Classical Antiquities of Acropolis. I am grateful to the Director of the Excavation and former Director of the Acropolis Ephorate, Dr. Petros Kalligas, who trusted me the study of that material and encouraged my study. I would like also to thank the supervisors of the archaeological team, the archaeologists Mrs. Stamatia Eleftheratou and Mrs. Melpo Pologiorghi, and all my colleagues, the archaeologists who took part in that excavation, for their kind collaboration and their help all these years. I especially thank Mrs. Ioanna Papaloi, responsible for the depot of METRO and New Acropolis Museum excavations, for her constant support and her help to date pottery contexts and to reach the material studied, Mr. Christos Kontochristos, for his precious information about the findings from the wells and Mr. Makis Mavroeidopoulos for the information given about the prehistoric finds of the excavation. Many thanks are, also, owed to Mr. Nikos Antoniadis, the photographer of the excavation, for taking photos from all that material, and Zaharias Hrissimos, his assistant, who had carried out all the heavy manual work for me and enabled considerably my work. Finally, I am also indebted to Mr. Achilleas Chatziconstantinou for having revised my English text.

[1] Preliminary reports on these excavations: Kalligas 1995; Kalligas 2000; *ΑΔ* 47 (1992), vol. B1 (Χρονικά), 21-23; *ΑΔ* 48 (1993), vol. B1 (Χρονικά), 31-35; *ΑΔ* 49 (1994), vol. B1 (Χρονικά), 27-36; Eleftheratou 2000, 99; Eleftheratou 2008. The excavation for the foundation of the New Acropolis Museum, which took place in the same plot and brought to light important material, relevant to the artifacts studied here, is not presented in this paper.

[2] The area, where the excavation took place is generally called Makrygiannis' area nowadays, because according to the written sources, General Makrygiannis was the owner of a huge district to the southeast of the Athenian Acropolis, towards the first years of the 18th cent. B.C., that is a few years after the outbreak of the war of independence in 1821: Kalligas 1998, 39, note 75.

[3] Kalligas 1998, 40, notes 84-85.

important evidence of the life in the prehistoric period (mainly middle and late-Helladic onwards), whereas the scrappy remains dated in the Protogeometric, Geometric, Archaic and possibly the Classical period provide significant information for the residential and the sepulchral use of the site. From the 4th century B.C. onwards an important Athenian quarter, probably part of the ancient deme of Kollytos,[4] flourished there, around the junction of three main roads,[5] inside the confines of the *polis* circumvallated by the Themistoclean Wall. The complicated and rather slight architectural remains discovered during the rescue excavation mostly belong to the urban structures of the late Classical period: humble private houses[6] and workshops[7] identified underneath the better preserved Roman residential remains. In the Roman period, luxurious villas were built on the top of the simple dwellings, decorated with mosaics and precious pieces of art.[8] In the medieval period, when the city had fallen into decline, a cemetery, as well as related ossuaries occupied part of the settlement. However, in the 18th century, the whole area was deserted, dedicated to agriculture, as is recorded by the European travellers of that age. Indeed, some scattered agricultural remnants («αλώνια»)[9] from that period have been identified in the excavation site. Additionally, lime-pits[10] also of the same period have been identified, which provide evidence about the re-use of the ancient members and the decorative sculpture for the preparation of building materials by the inhabitants of the area during the Turkish occupation and the first years after the liberation.

MILLING EQUIPMENT FROM MAKRYGIANNIS' AREA

The artifacts studied, mainly household utensils, help to comprehend the living standard of the inhabitants and to enrich our knowledge of the simple devices of everyday use in antiquity, a topic often overlooked by scholars. Indeed, except for the few prehistoric[11] and Classical millstones[12] found in the Athenian Agora and the wells of the south slope of the Athenian Acropolis,[13] similar references from other Athenian

[4] For the location of the ancient deme of Kolyttos to the south of the Acropolis, southwest and far from the Agora and south of Areios Pagos: Traill 1975, 40, maps 1-3; Traill 1986, 126, map; Walbank 1994, 238. Some other scholars locate Kollytos to the north of the Agora: Thompson 1970, 66-67. For a full discussion about the location of Kollytos: Stroud 1990, 89, note 10; Eleftheratou 2004, 287, n. 6 (where earliest literature).

[5] On the Roads excavated in Makrygiannis' plot during the excavations for the METRO and the New Acropolis' Museum: Eleftheratou 2004, 287-288, notes 7-12; Eleftheratou 2006, 12-13.

[6] The classical and hellenistic houses found during the METRO excavation were destroyed by the roman buildings of the area. The best-preserved examples had been excavated in the adjacent part of the plot, excavated for the construction of the New Acropolis Museum: Eleftheratou 2006, 14.

[7] A pottery kiln was found and marble chips thrown by a stone workshop, which was discovered later in the excavation for the foundation of the New Museum of Acropolis and which is dated from the 1st cent. B.C. until the 1st cent. A.D.: Eleftheratou 2008. More workshops have been also excavated there: Eleftheratou 2006, 28-29.

[8] Very interesting is the portrait of Plato discovered in a modern deposit: Trianti 2002.

[9] For the agricultural installations ("αλώνια") to the southeast of the Athenian Acropolis, in the first half of the 18th cent.: Kalligas1998, 40, note 83.

[10] For similar lime-kilns excavated in the Athenian Agora: Thompson and Wycherley 1971, 191.

[11] Anderson-Immerwahr 1971, nos. 228-230 (neolithic querns), 391 and 394-395 (early and middle Helladic querns).

[12] Thompson 1940, 28, 96, 104 and 143.

[13] Mountjoy 1981.

ancient demes is at best scanty. This study aims to expand this field with new information.

None of the implements studied was found *in situ*; they were gathered from deposits of various and sometimes questioned dates, whereas the implements not worthy of further usage were either built in walls or incorporated in their foundations and other excavated constructions. Others were even thrown away in waste-pits carved in the rock and the dried-up wells and cisterns, most of which were discovered after the completion of the excavation during the construction of the METRO tunnels by means of the Tunnel Boring Machines (TBM) (**figs**. **3-4**). The overwhelming majority of these artifacts date from the prehistoric to the Roman period and they belong mainly to two categories: the saddle-querns and hopper-rubbers; fragments of rotary querns are very scanty. The overlapping of certain types of hand mills from the Roman until the late-Roman period, that is of the hopper-rubbers and a few rotary querns, is of great academic interest, especially if one considers the fact that an organized workshop for grinding cereals was active during the Roman period (2^{nd}-3^{rd} cent. A.D.) in the area of the METRO excavation.[14] As a matter of fact, it had replaced, to some extent, the process of grinding, in each home individually. However, according to certain scholars, milling and baking probably bulked less in domestic life as early as in the 5^{th} cent. B.C. and became an independent profession.[15] In fact, the Athenian bakers were renowned for the high quality of their bread, which was made by finely ground flour, probably prepared in the hopper-rubbers discussed in this paper. The great bulk of material studied here, testifies that such production took place mainly in-house by the housewives rather than elsewhere.

A huge number of fragmented mortars, used side by side with the querns, were also found in the excavation: as is well known, cereals (emmer and barley) must be pounded in mortars before grinding.[16] In this paper only the querns will be presented.

The artifacts studied were all made of various volcanic rocks, whose origin cannot be identified, because neither petrologic nor geochemical analysis has been undertaken as yet on relevant samples of querns and ancient quarries of volcanic rocks.

SADDLE-QUERNS

Saddle-querns were the simpliest devices for dehusking grain;[17] they were long oval slabs of stone, on which the grains broke open through the reversible movement of a grinder, usually a simple pebble, small enough to fit in one' s hand, or a similar slab with one flat side.

Almost all saddle-querns found in the Makrygiannis' area are simple elongated rubble stones with one convex and one concave surface, shaped by the pounding (type A). A variant of type A is type B, which comprises implements with a concave surface, which slopes in order that the grain may be collected more easily. Very elongated examples, carved in various rocks belong to type C, whereas the single saddle-quern with the herring-bone pattern on its upper surface may be dated later and ascribed to a

[14] Saraga 2008.
[15] Toutain 1979, 54.
[16] Braun 1991, 30.
[17] Poupaki 1998, 141-145 (where earlier literature).

different type, type D (**fig. 5** and **13**).

The only examples of saddle-querns datable to the prehistoric period are the fragments **1** (M 912) and **2** (M 913) (**fig. 6**), which were found in a Mycenaean pit, accurately dated in LH IIB/IIIA1 period[18] by the pottery found. Judging from their shape, which is common in the whole Mediterranean Basin since Early Bronze Age,[19] and the context of the pit, they can be securely dated in the Late Helladic II/III. From a prehistoric deposit also originates no. **16** (M 485).

Well-dated examples of the same type A are these found in Geometric layers (Nos. **4** –M 395, **5** –M 396 and **6** –M 397) and in a Geometric well (well no. 20)[20] (Nos. **7** –M 2116, **8** –M 2117, **9** –M 2118, **10** –M 2119; see **fig. 7**).

The provenance of the querns nos. **12** (M 1612), **13** (M 1613), **14** (M 1614), **15** (M 1615) (**fig. 8**), of type A, from an early Classical deposit may indicate a later date, that is in Archaic period.

The querns nos. **18** (M 1608), **19** (M 662), **20** (M 701), **23** (M 1310), **24** (M 1461), **25** (M 1459), **26** (M 2237) and **27** (M 2297), of type A, were found in deposits of various dates and should also be prehistoric or Geometric. Some of them were gathered from pits in the mother-rock, often identified as desecrated graves or waste pits:[21] nos. 19, 20 and **21** (M 143). The quern no. **22** (M 1835 –**fig. 9**) was the only grave-good from a grave of an infant.[22]

Among the querns of type A we can easily distinguish two main subgroups, 1 and 2, according to the thickness. Querns nos. 1, 2, 6, 10, 16, 17, 23, 24, 26, 28, 29 and 31, which are thicker, belong to the subgroup A1 and the nos. 3, 4, 5, 7, 8, 9, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 25, 27, 30, 32, 33 and 34, which are thinner belong to subgroup A2. Querns nos. **28** (M 1503) and **29** (M 1810) are the thinnest examples studied, probably due to their long period of use. No. 29 (**fig. 10**) is the single quern carved in tough local schist and could have been used as upper stone (grinder).

All the saddle-querns mentioned above were carved in the well-known grey volcanic rock with black and white flecks (geol. andesite or rhyolite). Two examples are carved in a rock of reddish colour: no. 20 and 25. The grey volcanic stone with black and white inclusions (used for carving most of the saddle-querns studied is familiar from other saddle-querns found near the Athenian Acropolis[23] and is thought to be imported from Aegina,[24] Methana,[25] or elsewhere around the Saronic Gulf[26] region, as early as

[18] For the finds of this pit, *see* Mauroeidopoulos 2000, 51-53.

[19] Karimali 2004, 71 (where earlier literature).

[20] Mougnai 2000, 62-63. From the same well probably originates the fragment no. 11 (M 1452).

[21] These pits were usually filled with Classical, Archaic, Geometric or even prehistoric findings, e.g. sherds of fine quality black-glazed pottery of late Archaic or early Classical date. We note that the most impressive vase welded by numerous sherds was a *γαμικός λέβητας*: Kalligas 1995, 6.

[22] A special allusion should be made for no. 22 (M 1835), which was found in a pit or cist-grave of an infant, probably of prehistoric or Geometric period. It is a rather rare case, but it is not absent from the burial customs and ritual contexts in neolithic cemeteries of the Central Europe: Hammon (in print).

[23] E.g. saddle-querns from the Athenian Agora: Anderson-Immerwahr 1971, nos. 228-230 (Neolithic querns), 391 and 394-395 (Early and Middle Helladic querns).

[24] Dietrich, Mercolli and Oberhänsli 1988, 21-39; Patton 1996, 143, 152 where earlier literature.

[25] Mee and Forbes 1997, 7-8.

[26] Williams-Thorpe and Thorpe 1993, 263-320; Karimali 2004, 71 (with earlier literature); Mexi 2009; Bassiakos, Kakavogianni and Mexi 2008.

Early Helladic period.[27]

Type B is represented by two saddle-querns of the same date, nos. **30** (M 1808 – **fig. 11**) and **31** (M 862), which are carved in different rocks and their grinding surface is concave and slopes, as noted above.

Another two querns, nos. **32** (M 1193) and **33** (M 799) (**fig. 12**), which are dated in the late Geometric or Archaic period, can be distinguished by their elongated shape and the diversity of the rocks used for carving. They can be allocated to a different type, C. Similar saddle-querns, which bear no striations on their grinding surface, have been found in Athens (7th cent. B.C.),[28] in Morgantina in Sicily (of Archaic period),[29] in ancient Halassarna in Kos (of Classical period)[30] and in the Argolid (dated from Archaic to Hellenistic period).[31]

The only saddle-quern which provides solid evidence of more elaborate and improved implements in the modest pre-classical dwellings of Athens is the quern no. **34** (M 860 and M 532 –**fig. 13**).[32] It consists of two fragments, found underneath two different stone blocks of the retaining wall of road 1. Its archaic date seems probable, judging from the context of the foundation trench of the wall, where both were found. The herringbone pattern on its working surface was adopted to improve grinding.

This particular type of millstone is adopted in the Geometric period and sometimes survives till the Hellenistic period.[33] The emergence of this type of well-shaped querns, which remained steady to facilitate grinding[34] towards the Geometric period, enabled hand pounding. As a matter of fact, that advanced type of saddle-quern guaranteed labour-saving.

Among the saddle-querns of the Makrygiannis' METRO excavations, some must have been used as upper stones. This hypothesis seems probable, because the grinders found are few and most of them were not effective in producing good quality flour.

GRINDERS AND RELATED IMPLEMENTS

Small, easily-gripped spherical implements were also found in the same excavation and are thought to have been used as grinders, as their shape is reminiscent of objects handled by slaves using saddle-querns on figurines.[35] The spherical tools of types A and B presented here could be used also for polishing or related labors. They are examined, however, together with the grinders used with the querns, because they all belong to a

[27] The late Early Helladic II shipwreck of Dokos islet, near Hydra island, that carried raw materials for carving tools (melian obsidian) and querns (aeginitan andesite) is an important discovery, which deserves further research: Agouridis 1993. For further information on the commercial value of the millstones in prehistoric times: Runnels 1985, 30-43.

[28] Amouretti 1986, pl. 21a.

[29] White 1963, 201, pl. 47. 3-4.

[30] Poupaki 2011, no. 29 (ΛΣ 3).

[31] Kardulias and Runnels 1995, 116-118, 430, εικ. 95.

[32] Poupaki 2000, 104-105.

[33] E.g. Déonna 1938, pl. XLVIII, 362-363.

[34] Such a shaping of saddle-querns cannot be excluded for some prehistoric examples: In the prehistoric settlement of Kolona on Aegina island, an unusual find was a large block of andesite; could have been transferred there in order to be carved in household utensils? (French 1992-93). For the carving process of a saddle-quern from Sweden in the Neolithic Age: Lidstrom Holmberg 2004, 213.

[35] Poupaki 1998, note 104.

major unique group of implements. Most are made of volcanic stones and schist and the following main types can be distinguished:

Type A is represented by very few tools, which is (rare) spherical and compressed with two shallow concavities on its broad surfaces. The shape is reminiscent of certain prehistoric examples from Lindos,[36] Poliochni,[37] Keos,[38] Halasarna[39] and Cyprus,[40] of various stones; this suggests that no. **36** (M 1279) and **37** (M 1817) are also prehistoric. A well dated example had been also found in the "Mycenaean pit" and belongs to type C (no. **38** –M 1911). However, the very small size of these items and their manufacture from readily abraded metamorphic rock suggests they would be polishers or rubbers rather than grinders.

Type B includes two Geometric grinders (nos. **39** –M 2115, **fig. 14**, **40** –M 2113) of spherical, slightly compressed shape both made of a soft porous limestone, material completely inappropriate for grinders. They could be used as flail or related beating-tools.

Type C is the commonest type. They are spherical and of varying date (Nos. **41-51**: M 405, M 2061, M 958, M 336, M 1974, M 1392, M 1761, M 1730, M 2298, M 1886, M 1074 **–fig. 15**). A well-dated example had been found in the "Mycenaean pit" (no. 38**-** M 1911). The earliest examples (nos. 42-44) were found in Geometric deposits (usually wells) and are carved in the common grey volcanic rock of neighbouring origin. Some of these examples are rather small for being used for pounding cereals; they would be appropriate for mixing purposes (nos. 47 and 49).

To type D belong two oval grinders, whose shape was probably conditioned by the type of stone (Nos. **52-53** –M 1804).

Type E grinders could also be identified as pestles, since their irregular conical shape enables not only the to-and-fro movement on a saddle-quern but also the up-and-down movement in a mortar (Nos. **54-55**: M 1717-M 412, **fig. 16**). Both these grinders must be Archaic or Classical.

All the grinders of the last three types are predominantly carved in the grey volcanic rock, also used for the saddle-querns, which is thought to have been quarried in Saronic Gulf region.

There are a few more round or rounded cubic implements, found in the excavation, carved in limestone (M 702, M 1493, M 1616, M 1813, M 2579), metamorphic stones, such as schist, serpentinite (M 488, M 426) and marble (M 1845, M 1124), and igneous rocks, such as peridotite (M 1694, M 1803, M 418, M 1529, M 1861, M 472, M 1073, M 636).They are not presented in this paper, because they probably had a different use, in leather-work. Cubic small implements would be useful for the pouring; namely, the leathers, which, before being sold, had to be smoothed by means of similar tools.[41] Such tools would have smoothed leather; before the 5th century

[36] Blinkenberg 1931, no. 14, pl. 32.

[37] Bernabo-Brea 1964, 610, pl. CIV. 1-5 (periodo azzuro).

[38] Cummer and Schofield 1984, 67, no. 351, pl. 44. 351.

[39] Poupaki 2011, no. 64, dr. 67, fig. 85.

[40] Chavane 1975, 23, pl. VI, 6; Dikaios 1953, 283, no. 666.

[41] In the traditional Greek tannage, they had used an iron blunt tool called "ntounaletta": Zarkia 1997, 29, fig. 32.

production of cereals, weaving and leather-work was domestic, as confirmed by this material. It must be noted that in the early Greek period (probably between the 8th and the 6th cent. B.C.), labours such as grinding of cereals, weaving embroideries and leather work were domestic crafts.[42] In the case of Makrygiannis' area, the existence of tools associated with leather work could mean that early Classical-era leather craft was practiced in-house. Such tools would have smoothed leather; before the 5th century production of cereals, weaving and leather-work was domestic, as confirmed by this material. From the Classical period onwards some of these crafts were specialised and practised by craftsmen in their workshops.[43] Makrygiannis' area might not be the appropriate town's quarter for the establishment of organised tanneries, an activity more suitable the outskirts in view of the malodorous taming process; but if the remains of a workshop during the tanning process, would be extremely disturbing for the inhabitants.[44] However, if the remnants of a workshop excavated in the same area belong to a tannery,[45] then we may assume that these tools are part of its gear.

A bigger oval grinder with one flat surface (no. **105** –M 694 –**fig. 17**) could have been used for salt or olive grinding.[46]

HOPPER-RUBBERS

Hopper-rubbers,[47] also known in literature as Olynthian mills, are rectangular-shaped friction grain mills the movable part of which was the upper millstone (*ὄνος ἀλετῶν*) while the lower was fixed (*μύλη* or *τράπεζα*). The upper stone was hollowed out as a hopper in order to receive and funnel the cereals on the grinding surface of the lower mill through the slot which was carved on the bottom of the hopper. Grinding is conducted by the to-and-fro movement of a rectangular shaped grinder on the rectangular quern, by means of a long lever (*κώπη*), which was fixed on special slots at each end of the upper millstone and held firmly in place by iron rods; finally, at one end of the upper millstone the lever was fitted over a pivot.

As with the saddle-querns, no Olynthian mill was discovered *in situ*; all of them were gathered either from wells, the masonry of walls or elsewhere in the excavated structures (in the layers or the drains of the roads, in the workshops etc.). The largest fragments were built into the masonry of the workshops excavated at the west side of Road I (**Nos. 56** –M 708, **57** –M 778, **58** –M 1055 and **59** –M 2575, which are *onoi*, and **83** –M 656, **84** –M 720, which were *mylai* –**fig. 18a-b**). The contexts of 56-59 and 83-84 together suggest a late Classical or early Hellenistic date for these Olynthian hoppers, which are all of the same periods. These querns are all carved in the same dark grey vesicular stone of unknown origin. All preserved grinding surfaces bear diagonal parallel striations, which could indicate a herringbone pattern (no. 83), crudely incised by means

[42] Toutain 1979, 18.

[43] For example, there are references about specialized craftsmen, who only cut the leather or for shoemakers in the adjacent demes. We mention that a shoemaker's workshop excavated in the Ancient Agora has been identified as the workshop of Simon, which Socrates used to visit: Thompson 1960; Toutain 1979, 53, note 2; Chatzidimitriou 1997, 37; Chatzidimitriou 2005, 96.

[44] Zarkia 1997, 7.

[45] A building excavated to the east of the Road III had been identified as tannery: Eleftheratou 2006, 29.

[46] Cf. Poupaki 2011, no. 76 and 77, notes 336-337.

[47] Poupaki 1998, 147-151 (where earlier literature).

of a point. Their hopper is rectangular. The strong similarities between 57, 59 and 83 create the impression that they were all carved in the same workshop.

The *onoi* of the hopper-rubbers nos. **60** (M 1748), **61** (M 1382), **62** (M 869), **63** (M 295), and the myle no. **85** (M 846), may also be dated in the Classical and Hellenistic periods, judging from the dating of the related deposits: the first two (nos. 60-61) were found in Hellenistic deposits while the rest were used in Road I (nos. 62-63 –**fig. 19**, and 85). The affiliations observed between these querns and nos. **86** (M 173), from a late Roman deposit, and nos. **87** (M 1670), **88** (M 1662) and **89** (M 1665), from wells dated from the Geometric/Archaic to the Roman period, help us to classify them in the same group. Their shared features are: dark grey vesicular stone, diagonal striations on the grinding surfaces and rectangular shape of the hopper. Chronologically, this group may be placed approximately in the Classical to Hellenistic period.

The pattern of diagonal striations detected on these mills, which can form the herringbone pattern is very common on the Greek Mainland (Olynthus,[48] Pagasai and Demetrias,[49] Delos,[50] Thera[51]), Asia Minor (Priene,[52] Hellenistic shipwreck of Serçe-Liman[53]), North Africa (shipwreck of Mahdia[54]) and the Middle East.[55]

To the same period we could also date the *onos* no. **81** (M 1710), which was found in well no. 24, as no. 87, and is a rare example carved in the well-known grey volcanic stone, which was used for the saddle-querns.

From a late Classical/Hellenistic deposit originates also the *myle* no. **90** (M 1634 – **fig. 20**), which represents a different type: it is carved in the fine-grained grey volcanic rock also used for the saddle-quern no. 35 (M 860 and M 532) and the striations on its grinding surface are separated in zones of herringbone pattern and parallel straight lines. The same type is also attested in hopper-rubbers from Priene,[56] which belong to the "primitive" type of hopper-rubber with hand grips, as well as from Delos[57] and other sites in the Middle East.[58]

Important evidence for the distribution of certain types, which appear in more distant areas (e.g. Olynthus,[59] Demetrias and Pagasai[60]), as well as in neighboring ones (Corinth, Isthmia[61]), is offered by fragments of querns with oval or circular hopper. These are no. **64** (M 711), from the central drain of the ancient Road I, nos. **65** (M 1842), **66** (M 1847) and **67** (M 348) (**fig. 21**), from the late Roman well no.1 and no. **68** (M 609), from the central drain of the ancient Road II, all therefore from Roman contexts. The use of the Olynthian mills is believed to have arrived as late as in the

[48] Robinson and Graham 1946, pl. 79, 5.
[49] Stahlin, Meyer and Heidner 1934, 130-131, pl. XXI b-c.
[50] Déonna 1938, 125 (B 5709), pls. 366, 367, 374.
[51] Von Gaertringen and Wilski 1904, figs. 193, 195.
[52] Wiegand and Schader 1904, fig. 525.
[53] Pulak and Townsend 1987, 41, fig. 11.
[54] Baatz 1996, 99, fig. 6.
[55] Frankel 2003, note 77.
[56] Wiegand and Schader 1904, 376, fig. 474 and 394, fig. 525.
[57] Déonna 1938, 127, fig. 155.5.
[58] Frankel 2003, 13, note 78.
[59] Robinson and Graham 1938, 333-334, pl. 81.5-6; Robinson and Graham 1946, figs. 76, 187, pl. 80.5-6.
[60] Stählin, Meyer and Heidner 1934, fig. 26.
[61] Runnels 1981, 296.

Roman period, as it is proven by the findings from the Athenian Agora.[62] On the contrary, their aforementioned counterparts from other sites date in the Classical and Hellenistic period. Consequently, a date from the Hellenistic to Roman period can be adopted for these mills.

A similar late use can be proposed for the hopper-rubbers nos. **69** (M 1941), **70** (M 2236), **91** (M 1668), **92** (M 1885), **93** (M 1837) and **94** (M 1669) from late Roman/early Byzantine wells and cisterns, nos. **71** (M 38) and **72** (M 948) from the substructure of a late Roman pavement of the villa excavated in the central area of the plot, and no. **73** (M 707) from ancient road I.

Regarding the stones preferred for the carving of these hopper-rubbers examined, the earliest examples are made of the same vesicular, dark grey nearly-black volcanic rock. However, there are still some hopper mills, nos. **74** (M 2580) and 81 (1710) (**fig. 22**) carved in the grey volcanic rock with black and white inclusions (probably andesite), similar to the stone used for the saddle-querns. Other hand mills made of thin-grained volcanic rock can be dated from the Classical/Hellenistic (no. 90) to Roman/early Byzantine (nos. 65-67, **75** –M 69). Their material resembles that of the saddle-quern no. 35. The hopper-rubber no. 69 with the horizontal striations on its grinding surface is carved in a totally different stone, which is more vesicular and almost black. The strong similarity of that quern with three examples from Halasarna allows the hypothesis that it comes from their workshop, recently located in neighboring Nisyrus.[63]

In brief, the hopper-rubbers studied can be classified in the following main types:

Type A: querns of dark grey vesicular lava without or with diagonal striations, which may form a herringbone pattern on their grinding surfaces, roughly carved by means of the point, and rectangular hopper: nos. 56-61, 63, 83-89. These mills are dated from the Classical to the Hellenistic period.

Type B: querns of light grey fine-grained volcanic rock with diagonal striations in various combinations of patterns, carve in a rude manner, as these of type A, and oval or circular hopper: nos. 64-68. They are dated from the Hellenistic to Roman period.

Type C: hopper mills of the same rock as the saddle-querns (andesite/rhyolite), with or without striations: nos 74, 81.

Type D: hopper-rubbers in a dark grey vesicular, very porous, stone, with straight parallel striations and rectangular hopper: nos. 69 (**fig. 25**) and **82** (M 317). The same pattern is also attested on examples from Olynthus (Late Classical),[64] Halasarna (Classical/Hellenistic)[65] and Delos (Late Classical/Hellenistic).[66]

Some of these mills lack striations on their grinding surfaces (nos. **76** –M 1439, **78** –M 1746, 85, 86, 87, 88, 89, 92). The majority, though, preserves a great variety of striation patterns, which also feature the most interesting Olynthian mills published. No pattern predominates in any given type. The patterns attested are: simple straight parallel striations (nos. 69 and 97), simple diagonal striations (nos. 57, 59, 60, 63, 72, 73, **77** –M 1460, 81, 93, 94, **96** –M 489, **97** –M 1805), herringbone (65, 66, 67, 68, 71, 75, 83,

[62] Runnels 1981, pl. 25.

[63] Poupaki 2011, nos 31-35; Katerinopoulos, Mavrogonatos and Poupaki (forthcoming).

[64] Robinson and Graham 1946, pl. 79. 7; Mylonas 1929, 76, fig. 43.

[65] Poupaki 2011, nos. 30 (ΛΣ 1), 32 (ΛΣ 25), 33 (ΛΣ 26), 35 (ΛΣ 42).

[66] Déonna 1938, 125 (B 107), pl. 366; Marcadé 1953, 593 (B 7433), fig. 83f.

84, 91), herringbone with double central line[67] (no. **95** –M 2281, **fig. 23**), zones of herringbone pattern and parallel straight lines (no. 90 –**fig. 20**).

Finally, it should be mentioned that some mills bear monograms (nos. 65-66, 68), which obviously refer to their owners:[68] On the one side of the mill no. 65 there is an inscribed H,[69] while on the grinding surface of the mills nos. 66 and 68 there are straight incised lines, which interrupt the herringbone pattern and can be identified as part indicative traces.

Generally speaking, the hopper-rubbers from the excavation in this southeast quarter of ancient Athens make up a large assemblage consistent with the notion that every household could afford a simple device for making flour, used by the housewives to knead bread. It may also be possible that the Olynthian mills, which were the most durable grinding implements, probably in that Athenian quarter, must have displaced the use of the rotary mills, which are very rare.

No comments can be made on the origin of the materials used, since there are many regions in the south Aegean,[70] which could provide the vesicular black stone attested on the most examples of hopper rubbers. According to Strabo, Nisyrus was famous for the commerce of millstones in antiquity (Strabo, *Geogr*. X 488, 489), whereas Kos provided also the proper material for similar uses, which was used for the manufacture of mills on the island.[71] Pantelleria in south Italy has also been considered as the origin for certain Olynthian mills from Greece.[72]

ROTARY QUERNS

Rotary querns are round-shaped querns used for the grinding of cereals through the circular movement of a round shaped grinder above a similar quern. The grinder is pierced in the middle in order to enable the spindle to pass through the stone and allow the upper stone to move smoothly. The hopper is curved around the hole of the upper stone. Through it, it is common that the spindle perforates the cereals are funneled to the space between the two elements and then ground. The lower millstone and is fixed on a board (i.e a table) beneath the querns, a structure which permits the steady rotation of the upper millstone. The spindle is held tight by a wooden frame fixed on the upper stone, whilst a wooden or metallic handle is fixed on its circumference, through the movement of which the circular movement of the quern is achieved.

Rotary querns form the smallest group of the artifacts studied: nos. **100** –M 632, **101** –M 1653, **102** –M 393, **103** –M 450, **104** –M 322 (**fig. 24**: nos. 100, 101 and 103). Their characteristics such as dimensions, material and key features allow us to classify them in a single type: they are thick enough to be hollowed into a deep hopper; their

[67] For a similar herringbone pattern with five central striations: Déonna 1938, pl. XLVIII, 366.

[68] For similar inscribed letters on mills from Delos, which remain unexplained: Brunet 1997, 35-36.

[69] Some Roman examples of rotary querns bear inscriptions mentioning the military camp, where they were in use: Jodry 2010; Jodry 2011.

[70] Runnels 1981.

[71] For a general discussion on the millstone quarry located in Argos of Nisyrus: Katerinopoulos, Mavrogonatos and Poupaki (forthcoming). The rhyolite quarries of Kefalos peninsula of Kos (Peleketa and Kastelli) provided all necessary material for certain Olynthian, but mostly for rotary hand mills: Poupaki 2011; Katerinopoulos, Mavrogonatos and Poupaki (forthcoming).

[72] Williams-Thorpe and Thorpe 1991 (hopper mills from the El Sec shipwreck).

stone is of low quality and is probably imported; there is the special socket in the hopper for the insertion of the wooden frame, which helped the central axis to remain steady, whereas another socket on its circumference was meant for the insertion of the wooden handle. They can be securely dated by the stratigraphy of the excavation: they were found in late Roman to medieval deposits, as well as by their strong similarity to other well-dated, published counterparts; e.g. the earliest examples of rotary querns from Halassarna, dated in the early 1st cent. A.D., are carved in a native volcanic rock,[73] and the millstones from the Mahdia shipwreck[74] and Delos,[75] which are earlier than the Koan examples.

The stone used for the Athenian examples does not resemble that used for hopper-rubbers or saddle-querns.

CONCLUSION

Hand mills from the Makrygiannis area offer significant information about the past, even though the distribution of the artefacts cannot determine where the related activities were practised, since the implements studied were not found *in situ*. Further research should also be carried out on the origin of their lithic material, in order to map out the trade of raw material in antiquity, as a contribution to our knowledge of the economy and social organization of the prehistoric and Classical to Hellenistic age. For this purpose, the chemical profile of the millstones has to be examined and then a comparison to that of Italian and Greek volcanic stones made. Taking as a paradigm research on related material found elsewhere, through petrologic and chemical analysis, we should definitely apply the same procedures to the material from Athens.

[73] Poupaki 2011, nos. 38-39.
[74] Baatz 1996, 98.
[75] Déonna 1938, pl. 386.

CATALOGUE[76]

1. Fragment of saddle-quern (M 912)
From the LHIIB/IIIA1 context of a waste pit ("Mycenaean pit")
Th. 0.073 m., l. 0.19 m., w. 0.18 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Extremity fragment of the quern. Parts of both the grinding and the convex surfaces are preserved. The grinding surface is not worn.
Late Helladic.

2. Fragment of saddle-quern (M 913)
From the "Mycenaean pit" (cf. no.1).
Th. 0.07 m., l. 0.14 m., w. 0.07 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Extremity fragment of the quern. Parts of both the grinding and the convex surfaces are preserved. The grinding surface is not worn.
Late Helladic.

3. Fragment of saddle-quern (M 676)
Th. 0.063 m., l. 0.063 m., w. 0.18 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Mid fragment of the quern. Parts of both the grinding and the convex surfaces are preserved. The grinding surface is not worn.
Late Helladic.

4. Fragment of saddle-quern (M 395)
Found in the foundation trench of the retaining wall (analemma) of the ancient road I in a Geometric/early Classical deposit.
Th. 0.05/6 m., l. 0.113 m., w. 0.15 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Mid fragment of the quern. Parts of both the grinding and the convex surfaces are preserved. The grinding surface is not worn.
Geometric.

5. Fragment of saddle-quern (M 396)
Found in a Mycenaean/Geometric deposit, which filled the trench carved in the natural rock between a rectangular and an oval pit, probably for some industrial purpose (unidentified yet).
Th. 0.045 m., l. 0.083 m., w. 0.135 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Mid fragment of the quern. Parts of both the grinding and the convex surfaces are preserved. The grinding surface is not worn.
Mycenaean to Geometric.

[76] All material is currently stored in the New Acropolis Museum. The exact origin of each piece and its context, for lack of a final publication, is cited from the excavators' notebooks. The information cited is given by the excavators in their excavation journals. In some cases the exact date of the context is not given and so is omitted from the catalogue. Abbreviations used: dim.=dimensions, diam.=diameter, h.=height, th.=thickness, l.=length, m.=meter, max.=maximum, min.=minimum.

6. Fragment of saddle-quern (M 397)
Found in a Mycenaean/Geometric deposit, which filled the trench carved in the natural rock between a rectangular and an oval pit, probably for some industrial purpose (unidentified yet).
Th. 0.07 m., l. 0.085 m., w. 0.075 m.
Dark grey volcanic rock with black and white inclusions (andesite or rhyolite).
Mid fragment of the quern. Part of its base is preserved, which is flattened, so as to remain steady.
Mycenaean to Geometric.

7. Fragment of saddle-quern (M 2116)
From the Geometric well no. 20, detected in the vicinity of the kiln for preparation of red colour.
Th. 0.052-0.06 m., l. 0.17 m., w. 0.11-0.18 m.
Grey-reddish volcanic rock with black and white inclusions (andesite or rhyolite).
Extremity fragment of the quern. Parts of both the grinding and the convex surfaces are preserved. The grinding surface is concave and worn by the sheaving action of the grinder.
Geometric.

8. Fragment of saddle-quern (M 2117)
From the Geometric well no. 20.
Th. 0.10 m., l. 0.165 m., w. 0.14 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Extremity fragment of the quern. Parts of both the grinding and the convex surfaces are preserved. The grinding surface is not worn.
Geometric.

9. Fragment of saddle-quern (M 2118)
From the Geometric well no. 20.
Th. 0.06 m., l. 0.135 m., w. 0.12 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Extremity fragment of the quern. Parts of both the grinding and the convex surfaces are preserved. The grinding surface is worn by the sheaving action of the grinder.
Geometric.

10. Fragment of saddle-quern (M 2119)
From the Geometric well no. 20.
Th. 0.07 m., l. 0.135 m., w. 0.10 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Extremity fragment of the quern. Parts of both the grinding and the convex surfaces are preserved. The grinding surface is slightly concave and worn by the sheaving action of the grinder.
Geometric.

11. Fragment of saddle-quern (M 1452)
Unknown origin
Th. 0.05 m., l. 0.14 m., w. 0.133 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Mid fragment of the quern. Parts of both the grinding and the convex surfaces are preserved. The grinding surface is not worn.
Geometric.

12. Fragment of saddle-quern (M 1612)
From an Archaic/early Classical deposit in the east part of Makrygiannis' plot.
Th. 0.05 m., l. 0.115 m., w. 0.055 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Mid fragment of the quern. Parts of both the grinding and the convex surfaces are preserved. The grinding surface is not worn. Traces of lime are preserved.
Archaic.

13. Fragment of saddle-quern (M 1613)
From an Archaic/early Classical deposit in the east part of Makrygiannis' plot.
Th. 0.04 m., l. 0.07 m., w. 0.13 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Mid fragment of the quern.
Parts of both the grinding and the convex surfaces are preserved. The grinding surface is not worn.
Archaic.

14. Fragment of saddle-quern (M 1614)
From an Archaic/early Classical deposit in the east part of Makrygiannis' plot.
Th. 0.06 m., l. 0.145 m., w. 0.14 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Extremity fragment of the quern. Parts of both the grinding and the convex surfaces are preserved. The grinding surface is concave by the sheaving action of the grinder.
Archaic.

15. Fragment of saddle-quern (M 1615)
From an Archaic/early Classical deposit in the east part of Makrygiannis' plot.
Th. 0.03-0.06 m., l. 0.15 m., w. 0.175 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Fragment of the quern. Parts of both the grinding and the convex surfaces are preserved. The grinding surface is not worn. Traces of lime are preserved.
Archaic.

16. Fragment of saddle-quern (M 485)
From prehistoric deposit, dated from Middle Helladic to Mycenaean period, in the east part of the plot.
Th. 0.085 m., l. 0.19 m., w. 0.185 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Extremity fragment of the quern. Parts of both the grinding and the convex surfaces are

preserved. The grinding surface is not worn.
Prehistoric.

17. Fragment of saddle-quern (M 291)
From a Geometric (?) deposit in the east part of the plot (coarse ware was also attested in the context).
Th. 0.113 m., l. 0.16 m., w. 0.205 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Mid fragment of the quern. Parts of both the grinding and the convex surfaces are preserved. The grinding surface is not worn.
Prehistoric to Geometric.

18. Fragment of saddle-quern (M 1608)
From a raked deposit in the east part of the plot (it Classical, medieval and modern pottery).
Th. 0.03 m., l. 0.10 m., w. 0.085 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Mid fragment of the quern. Parts of both the grinding and the convex surfaces are preserved. The grinding surface is not worn.
Prehistoric to Archaic.

19. Fragment of saddle-quern (M 662)
From a pit excavated beneath the wall Tx 55, filled with Mycenaean, Geometric and Archaic pottery, in the circular late Roman space.[77]
Th. 0.07 m., l. 0.125 m., w. 0.11 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Fragment of the quern. Parts of both the grinding and the convex surfaces are preserved.
Prehistoric to Archaic.

20. Fragment of saddle-quern (M 701)
From a pit excavated beneath the wall Tx 55, filled with Geometric and Archaic pottery, in the circular late Roman space.
Th. 0.05 m., l. 0.06 m., w. 0.13 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Extremity fragment of the quern. Parts of both the grinding and the convex surfaces are preserved. Flat grinding surface. It may belong to a single quern with no. 19.
Geometric to Archaic.

[77] The building has been identified as the yard of a late roman villa (Kalligas 1995, 10; Kalligas 2000, 37-38) and in its masonry broken architectural members from the nearby monuments have been used, e.g. part of the Doric entablature of the Eumenes' portico: Kassotaki 2000a. Later the rest of that building was excavated and named as Builging Z: Eleftheratou 2006 *o.c.* (note 5), σελ. 13.

21. Fragment of saddle-quern (M 1431)
From a pit in the eastern part of the plot.
Th. 0.06 m., l. 0.085 m., w. 0.16 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Fragment of the quern. Parts of both the grinding and the convex surfaces are preserved. The grinding surface is slightly concave by the sheaving action of the grinder.
Prehistoric to Geometric.

22. Fragment of saddle-quern (M 1835)
From the pit or cist-grave of an infant (no. 113) in the eastern part of the plot, where prehistoric and Geometric graves have been excavated.
Th. 0.065 m., l. 0.25 m., w. 0.24 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Almost the whole quern is preserved. Flat grinding surface. Natural depressions and an irregularity may be observed on the carved rock, due to its geological identity.
Prehistoric to Geometric.

23. Fragment of saddle-quern (M 1310)
It was found between amphoras that lied above the covering of the central drain of the ancient road I, in order to relieve it of the extra weights. The relative context is dated to the Hellenistic/Roman period.[78]
Th. 0.075 m., l. 0.14 m., w. 0.155 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Extremity fragment of a quern. Flat grinding surface not worn.
Prehistoric to Classical.

24. Fragment of saddle-quern (M 1461)
From the filling of the well no. 27, which is dated since Mycenaean to Classical period and was situated close to the carved trench, that linked a rectangular to a circular pit.
Th. 0.10 m., l. 0.145 m., w. 0.155 m.
Grey vesicular volcanic rock.
Extremity fragment of a quern. Flat grinding surface. Scattered point marks on its convex surface.
Prehistoric to Geometric.

25. Fragment of saddle-quern (M 1459)
From the late Roman destruction layer in the eastern part of the plot.
Th. 0.06 m., l. 0.215 m., w. 0.155 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Almost the whole quern is preserved. Slightly concave grinding surface by the sheaving action of the grinder. It preserves traces of lime.
Prehistoric to Geometric.

[78] Kassotaki 2000b; Eleftheratou 2000, 99, n. 5.

26. Fragment of saddle-quern (M 2237)
From the Roman/early Byzantine well no. 15, situated on the west side of ancient road I, near to the excavated workshops.
Th. 0.103 m., l. 0.155 m., w. 0.145 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Mid fragment of a quern. Flat grinding surface not worn.
Prehistoric to Archaic.

27. Fragment of saddle-quern (M 2297)
From the substructure of the late Roman wall no. 24 and an adjacent floor.
Th. 0.055 m., l. 0.12 m., w. 0.135 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Mid fragment of the quern. Flat grinding surface not worn.
It preserves traces of lime.
Prehistoric to Archaic.

28. Fragment of saddle-quern (M 1503)
From a Geometric/Classical deposit.
Th. 0.031 m., l. 0.092 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Mid fragment of the quern. Flat grinding surface very worn. It preserves traces of lime.
Prehistoric to Archaic.

29. Fragment of saddle-quern (M 1810)
From the prehistoric deposit of a pit (it is supposed to be a destroyed cist or pit-grave).
Th. 0.03-0.043 m., l. 0.14 m., w. 0.15-0.14 m.
Metamorphic rock (schist).
Mid fragment of the quern. Flat grinding surface not worn. It preserves traces of lime.
Prehistoric.

30. Fragment of saddle-quern (M 1808)
From a Geometric to Classical deposit in the east part of the plot.
Th. 0.085 m., l. 0.18 m., w. 0.28 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Nearly the whole quern is preserved. Concave and slopping grinding surface.
Geometric to Archaic.

31. Fragment of saddle-quern (M 862)
From a pit excavated beneath the one of the mosaics ofthe late Roman villa, west of the ancient road I, filled with early Byzantine pottery.
Th. 0.115 m., l. 0.31 m., w. 0.20 m.
Black vesicular volcanic rock.
The whole quern is preserved. Concave and slopping grinding surface.
Prehistoric to Classical.

32. Fragment of saddle-quern (M 1193)
From the Classical well no. 37 situated beneath the Makrygiannis street to northeast of the excavated area.
Th. 0.035 m., l. 0.14 m., w. 0.12 m.
Grey fine-grained volcanic rock.
Mid fragment of the quern. Flat grinding surface not worn.
Archaic to Classical.

33. Fragment of saddle quern (M 1933)
From the Roman/late Roman well 59, situated beneath a modern building on Makrygiannis street, close to Chatzichristou Street.
H. 0.035 m., w: 0.12 m.
Grey volcanic rock with white inclusions (andesite or rhyolite).
Extremity fragment of the quern. Flat grinding surface.
Geometric to Classical.

34. Fragment of saddle-quern (M 799)
From the deposit of the well no. 27, dated from Mycenaean to Classical period.
Th. 0.048 m., l. 0.175 m., w. 0.12 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Half of the quern. Concave grinding surface by the intensive sheaving action of the grinder.
Late Geometric/Archaic to Classical period.

35. Fragment of saddle-quern (M 532 + M 860)
Both fragments were found beneath two different plinths of the western retaining wall of the ancient road I (4th cent. B.C. to late Roman period).
Th. 0.05-0.055 m., l. 0.40 m., w. 0.075-0.16 m.
Grey volcanic rock.
It consists of two fragments. Nearly the whole quern is preserved. Flat grinding surface incised with the herring-bone pattern. Carinated section of the quern. Incisions carved by means of a drill and its bottom and sides by means of a point.
Archaic to Classical period.
Poupaki 2000; Parlama and Stampolides 2000, 104, no. 85.

36. Grinder (M 1279)
Built into wall Tχ 471Δ excavated beneath the conjunction of modern Makrygiannis' and Athanasiou Diakou Street.
Diam. 0.056-0.081 m.
Metamorphic rock.
Spherical grinder with two central circular shallow concavities.
Prehistoric.

37. Grinder (M 1817)
From the Classical well no. 37.
Diam. 0.06-0.09 m.
Grey igneous rock.

Spherical grinder with two central circular shallow concavities.
Prehistoric to Classical.

38. Grinder (M 1911)
Found in the "Mycenaean pit".
Diam. 0.056-0.065 m.
Grey volcanic rock with white inclusions (andesite/rhyolite).
Irregular spherical grinder with three flattened surfaces due to the long period of use.
Late Helladic.

39. Grinder (?) (M 2115)
From the Geometric well no. 20.
Diam. 0.087-0.088 m., Th. 0.058 m.
Soft sandy limestone probably from Aegina (*Αἰγιναῖος λίθος*).
Round and thick implement in the shape of a grinder. The soft stone used does not help grinding.
Geometric.

40. Grinder (?) (M 2113)
From the Roman/late-roman bell-shaped cistern no. VII, which was linked with the rectangular cistern no. I and the well no. 19, through tunnels carved in the rock.
Diam. 0.088-0.09 m., Th. 0.055-0.06 m.
Soft sandy limestone probably from Aegina (*Αἰγιναῖος λίθος*)
Round and thick implement in the shape of a grinder. The soft stone used does not help grinding.
Geometric?

41. Grinder (M 405)
From a Hellenistic/Roman deposit.[79]
Diam. 0.055-0.06 m.
Grey volcanic rock with white inclusions (andesite/rhyolite).
Irregular spherical grinder with six smooth surfaces due to the long period of use.
Prehistoric-Geometric.

42. Grinder (M 2061)
From the Geometric /early Archaic well no. 66, situated under a modern building on Falirou Street, between Petmeza and Makrygiannis' street.
Diam. 0.048-0.053 m.
Grey volcanic rock.
Spherical grinder. Slightly scraped.
Geometric.

[79] I would like to thank Mrs. Eirene Karra, archaeologist of the New Acropolis Museum excavation for dating the pottery from that deposit.

43. Grinder (M 958)
From the Geometric pit in front of the entrance of a pottery (?) kiln, excavated beneath the modern Makrygiannis' street.
Diam. 0.054-0.056 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Spherical grinder. Slightly scraped.
Geometric.

44. Grinder (M 336)
From the Geometric pit in front of the entrance of a pottery (?) kiln, excavated beneath the modern Makrygiannis' street.
Diam. 0.075-0.082 m., Th. 0.04-0.048 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Spherical grinder. Slightly compressed and smoothed by the long period of use.
Geometric.

45. Grinder (M 1974)
From the Roman/Medieval well no. 68, which was situated near to the conjunction of Vassilissis Olgas and Vassilissis Amalias Avenues.
Diam. 0.058-0.062 m., Th. 0.035 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Spherical grinder. Slightly compressed and scraped from the long period of use.
Geometric.

46. Grinder (M 1392)
From the ground floor near the pottery kiln excavated beneath the modern Makrygiannis' street.
Diam. 0.085-0.045 m.
Grey porous volcanic rock with black and white inclusions (andesite or rhyolite).
Spherical grinder. Slightly scraped.
Geometric.

47. Grinder (M 1761)
From a Classical/early Hellenistic pit excavated beneath the modern Makrygiannis' street.
Diam. 0.045-0.056 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Spherical grinder. Partially smoothed from the use and slightly scraped.
Classical.

48. Grinder (M 1730)
From a late Classical layer of the ancient road IV excavated beneath the modern Makrygiannis' street.
Diam. 0.05 m.
Grey volcanic rock
Spherical grinder.
Classical.

49. Grinder (M 2298)
From a Hellenistic/late Roman deposit in the east part of the plot.
Diam. 0.045-0.06 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Spherical grinder. Slightly scraped.
Hellenistic to Roman.

50. Grinder (M 1886)
From a Geometric to Classical deposit in the east part of the plot.
Diam. 0.074-0.088 m., Th. 0.041-0.043 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Spherical grinder. It looks as it was compressed, probably from the long period of use.
Geometric to Classical.

51. Grinder (M 1074)
From a surface layer in the north-eastern part of the plot.
Diam. 0.072 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Broken spherical grinder.
Geometric to Roman.

52. Grinder (M 1535)
From a Classical to Roman layer of ancient road IV excavated beneath the modern Makrygiannis' street.
Diam. 0.10-0.083 m., l. 0.126 m.
Grey volcanic rock with black and white inclusions.
Oval grinder. Partially spotted by rusty substances.
Classical to Roman.

53. Grinder (M 1804)
From the Hellenistic/Roman substructure of the wall no. 435, near to the well no. 41 found beneath the modern Makrygiannis' street.
Diam. 0.071-0.077 m., Th. 0.038 m.
Grey volcanic rock.
Oval grinder.
Hellenistic to Roman.

54. Grinder (M 1717)
From a Hellenistic deposit, near to the grave no. 19, in the eastern part of the plot.
Diam. 0.06-0.065 m., h. 0.055 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Irregular conical grinder. The lowest circular surface is smoothed due to its long period of use.
Classical to Hellenistic.
Poupaki 2000; Parlama and Stampolides 2000, 105, no. 86.

55. Grinder or pestle (M 412)
From a late Classical/Hellenistic layer of the ancient road I.
Diam. 0.05-0.055 m., h. 0.065 m.
Grey volcanic rock with black and white inclusions (andesite or rhyolite).
Irregular conical grinder. The lowest circular surface is smoothed due to its long period of use.
Late Classical to Hellenistic.
Poupaki 2000; Parlama and Stampolides 2000, 105-106, no. 87.

56. Fragment of the *onos* of a hopper-rubber (M 708)
From the destruction filling of the kiln for the preparation of red colour and the adjacent installations to the west of ancient Road I, dated from the last quarter of the third to the first half of the 2nd cent. B.C. (c.f. M 656 and M 720).
H. 0.10 m., max. dim. 0.065, min. dim. 0.063 m.
Dark grey vesicular volcanic rock.
Fragment of the grinding surface and the hopper of the *onos*. Diagonal striations in the herringbone pattern on the grinding surface, curved roughly by the means of a drill.
Classical to early Hellenistic.

57. Fragment of the *onos* of a hopper-rubber (M 778)
From the context of an installation adjacent to the kiln for the preparation of red colour dated in the Hellenistic and Roman periods, as M 1055 (cf. M 656, M 708, M 720).
H. 0.105 m., max. dim.: 0.115, min. dim.: 0.10 m.
Dark grey vesicular volcanic rock.
Fragment of the grinding surface, the hopper and the one side of the *onos*. Diagonal striations on the grinding surface carved roughly by means of a point.
Classical to early Hellenistic.

58. Fragment of the *onos* of a hopper-rubber (M 1055)
From the context of an installation adjacent to the kiln for the preparation of red colour dated in the Hellenistic and Roman periods, as M 778 (cf. M 656, M 708, M 720).
H. 0.063 m., max. l.: 0.152, min. l.: 0.05 m.
Dark grey vesicular volcanic rock.
Fragment of the hopper and the one side of the *onos*. It preserves traces of white plaster, because of its building to late Roman walls.
Classical to early Hellenistic.

59. Fragment of the *onos* of a hopper-rubber (M 2575)
From the masonry of the entrance of the kiln for the fabrication of red color, excavated to the west of the ancient road I. The context is dated in the late Classical and Hellenistic period.
H. 0.09 m., l. of the preserved sides: 0.14 and 0.10 (up)/0.135 and 0.09 (down), Th. of the rim: 0.03-0.05 m., dim. of the socket: 0 .0 68 x 0.02 x 0.01 x 0.015 m.
Dark grey vesicular volcanic rock.
Fragment of the grinding surface, the hopper and the two sides of the *onos*. Diagonal striations in on the grinding surface carved roughly by the means of a point and filled with red color apparently due to its later use in the masonry of the kiln. On the one side

of the quern there is a π-shaped socket for the insertion of a metallic fastener, whose trace has been left in the socket.
Classical to Hellenistic.

60. Fragment of the *onos* of a hopper-rubber (M 1748)
From a Hellenistic deposit south to the ancient road IV, excavated underneath the Athanassiou Diakou str.
H. 0.09 m., l. of the preserved sides: 0.185 and 0.08 m.
Grey vesicular volcanic rock.
Fragment of the grinding surface and the two sides of the *onos*. Diagonal striations in on the grinding surface carved roughly by the means of a point.
Classical to Hellenistic.

61. Fragment of the *onos* of a hopper-rubber (M 1382)
From a late Classical/Hellenistic layer that 'sealed' a pottery deposit pit near to the well no. 41.
H. 0.105 m., l. of the preserved sides: 0.165 and 0.17.
Dark grey vesicular volcanic rock.
Fragment of the grinding surface, the hopper and the two sides of the *onos*. Diagonal striations in on the grinding surface carved roughly by the means of a point.
Classical to Hellenistic.

62. Fragment of *onos* of a hopper-rubber (M 869)
From the depuration/ventilation shaft of the central drain of Road I.
H. 0.14 m., l. 0.43 m., max. w. 0.18 m., w. of the rim: 0.04-0.065 m.
Dark grey vesicular volcanic rock.
Fragment of the grinding surface, the hopper and the three sides of the onos. Diagonal striations which are interrupted by a straight one on the grinding surface carved roughly by means of a point.
Hellenistic.

63. Fragment of *onos* of a hopper-rubber (M 295)
From an early Byzantine layer of ancient Road I.
H. 0.09 m., max. dim. 0.155 m., min. dim.: 0.105 m.
Dark grey vesicular volcanic rock.
Fragment of the grinding surface, the hopper and the one side of the *onos*. Diagonal striations on the grinding surface carved roughly by means of a point.
Classical to Hellenistic.

64. Fragment of *onos* of a hopper-rubber (M 711)
From the Hellenistic/Roman deposit, due to a repair of the drainage system of the ancient Road I (the emplacement of drain Ω49).
H. 0.06 m., max. dim.: 0.127, min. dim.: 0.08 m.
Dark grey vesicular volcanic rock.
Fragment of the grinding surface, the hopper and the one side of the *onos*. The hopper is circular or oval. Diagonal striations interrupted by straight ones on the grinding surface carved roughly by means of a point.
Hellenistic to Roman.

65. Fragment of the *onos* of a hopper-rubber (M 1842)
From the late Roman well no. 1, situated near to the east bath complex in the southeast part of the plot.[80]
H. 0.07 m., l. of the preserved sides: 0.2-0.03 m.
Grey vesicular volcanic rock.
Fragment of the grinding surface, the hopper with the socket for the insertion of the *kope* and the two sides of the *onos*. The hopper is circular or oval. Diagonal striations on the grinding surface interrupted by a straight one carved by means of a drill. A roughly inscribed letter H by the means of a point on its side. It probably belongs to the same quern as no. M 1847 and M 348.
Hellenistic to Roman.

66. Fragment of the *onos* of a hopper-rubber (M 1847)
From the late Roman well no. 1.
H. 0.07 m., l. of the preserved sides: 0.185-0.11 m.
Grey vesicular volcanic rock.
Fragment of the grinding surface, the hopper with the socket for the insertion of the *kope* and the two sides of the *onos*. The hopper is circular or oval. Diagonal striations on the grinding surface interrupted by a straight one carved by means of a drill. A roughly inscribed letter H on its side. It probably belongs to the same quern as no. M 1842 and M 348.
Hellenistic to Roman.

67. Fragment of *onos* of a hopper-rubber (M 348)
From the late Roman well no. 1.
H. 0.07/0.073 m., max. dim. 0.21 m., min. dim. 0.185 m.
Grey vesicular volcanic rock.
Fragment of the grinding surface, the hopper and the one side of the *onos*. The hopper is circular or oval. Diagonal striations in the herringbone pattern interrupted by straight one on the grinding surface carved by means of a drill. The socket for the insertion of the *kopi* is also preserved. It probably belongs to the same quern as no. M 1842 and M 1847.
Hellenistic to Roman.

68. Fragment of *onos* of a hopper-rubber (M 609)
From the late Roman wall of the central drain of ancient Road II.
H. 0.05 m., max. dim. 0.167 m., min. dim. 0.14 m.
Grey vesicular volcanic rock.
Fragment of the grinding surface, the hopper and the one side of the *onos*. The hopper is circular or oval. Diagonal striations in the herringbone pattern on the grinding surface carved by means of a drill and interrupted by two rough straight incisions.
Hellenistic to Roman.

[80] For the excavation of the late Roman bath complex: Eleftheratou 2004, 285-328.

69. Fragment of *onos* of a hopper-rubber (M 1941)
From the late Roman /early Byzantine well no. 16 situated underneath a tiled floor of a workshop (?) to the east of Road I.[81]
H. 0.08 m., max. dim. 0.185 m., min. dim. 0.09 m.
Black vesicular volcanic rock.
Fragment of the grinding surface, the hopper and the one side of the *onos*. Parallel straight striations on the grinding surface carved by means of a drill.
Hellenistic to Roman.

70. Fragment of *onos* of a hopper-rubber (M 2236)
From the late Roman/early Byzantine well no 15, situated close to the well 14 and the cistern IV, to the west of Road 1 in the vicinity of the workshops.
H. 0.105 m., w. of rims: 0.03 m. & 0.07 m., max. dim. 0.15 m., min. dim. 0.065 m.
Grey vesicular volcanic rock.
Fragment of the grinding surface, the hopper and the two sides of the *onos*. Diagonal striations on the grinding surface carved roughly by means of a point.
Hellenistic to Roman.

71. Fragment of onos of a hopper-rubber (M 38)
From the Classical/Roman substructure of the late Roman pavement of the late-roman villa.
H. 0.105 m., max. dim.: 0.18 m., min. dim.: 0.08 m.
Grey volcanic rock.
Fragment of the grinding surface, the hopper and the one side of the *onos*. Diagonal striations forming the herringbone pattern on the grinding surface carved roughly by means of a drill.
Classical to Roman.

72. Fragment of the *onos* of a hopper-rubber (M 948)
From the Classical/Roman substructure of the late Roman pavement of the late Roman villa.
H. 0.085-0.09 m., l. of the preserved sides: 0.135-0.17 m. (down), 0.12-0.14 m. (up), Th. of the rim: 0.035-0.04 m.
Grey vesicular volcanic rock.
Fragment of the grinding surface, the hopper with the socket for the insertion of the *kope* and the two sides of the *onos*. Diagonal striations on the grinding surface carved roughly by means of a point.
Classical to Roman.

[81] Kontochristos 2000.

73. Fragment of *onos* of a hopper-rubber (M 707)
From a late Roman/early Byzantine layer of Road I, which had been out of use in the 7th cent. A.D.[82]
H. 0.11 m., max. dim. 0.15 m., min. dim.: 0.04 m.
Grey vesicular volcanic rock.
Fragment of the grinding surface, the hopper and the one side of the onos. Diagonal striations on the grinding surface carved roughly by means of a point.
Classical to Roman.

74. Fragment of the *onos* of a hopper-rubber (M 2580)
From a Hellenistic/early Roman deposit, which covered the marble-tiled floor of an unidentified building in the east part of the plot.
H. 0.12-0.13 m., l. of the preserved sides: 0.14 m. and 0.18 m. (up)/0.18 m. and 0.21 m. (down), Th. of the rim: 0.03-0.08 m.
Grey volcanic rock with white inclusions.
Fragment of the grinding surface, the hopper and the two sides of the *onos*. Flat grinding surface without striations.

75. Fragment of the *onos* of a hopper-rubber (M 69)
From a medieval layer between two silos dated in the last two centuries.[83]
H. 0.07 m., l. of the preserved sides: 0.165-0.195 m.
Grey volcanic rock.
Fragment of the grinding surface, the hopper and the one side of the *onos*. The hopper is circular or oval. Diagonal striations forming the herringbone pattern on the grinding surface carved by means of a drill.
Classical to Roman.

76. Fragment of the *onos* of a hopper-rubber (M 1439)
From the masonry of an unidentified installation, excavated underneath the Athanassiou Diakou str. The context is late Classical to Roman.
H. 0.105 m., l. of the preserved sides: 0.185 m. and 0.11/0.145 m., w. of the rim: 0.03 m. and 0.07 m.
Grey vesicular volcanic rock.
Fragment of the grinding surface, the hopper and the two sides of the *onos*. The thickest rim is interrupted by the socket for the insertion of the *kope*. On the side of the quern traces of the metallic lock of the *kope* is preserved. Grinding surface without striations.
Classical to Roman.

77. Fragment of the *onos* of a hopper-rubber (M 1460)
H. 0.09 m., l. of the preserved sides: 0.15 m. and 0.105 m., Th. of the rim: 0.05 m.
Grey volcanic rock with white inclusions.
Fragment of the grinding surface, the hopper and the two sides of the *onos*. Diagonal striations in the herringbone pattern on the grinding surface carved roughly by means of

[82] Kalligas 1995, 10; Kalligas 2000, 39: The last repairs of the central pipe of road I had been noted as late as in the 6th cent. A.D.
[83] Kalligas 1998, 40, n. 83.

a point and interrupted by an accidental incision. An inscribed Π on the upper part of the hopper.
Classical to Roman.

78. Fragment of the *onos* of a hopper-rubber (M 1746)
It was built in a silo dated in the last two centuries, excavated underneath Makrygiannis str.
H. 0.095 m., l. of the preserved side: 0.125 m., Th. of the rim: 0.035 m.
Grey volcanic rock with white inclusions.
Fragment of the grinding surface, the hopper and the two sides of the *onos*. Flat grinding surface without striations.
Classical to Roman.

79. Fragment of the *onos* of a hopper-rubber (M 1663)
From the cistern no. IV, dated from the Archaic to Byzantine period.
Th. 0.135 m., l. of the preserved sides: 0.08-0.08 m.
Grey vesicular volcanic rock.
Fragment of the grinding surface, the hopper and the two sides of the *onos*. Diagonal striations on the grinding surface carved roughly by means of a drill and smoothed due to the long period of use. It probably belongs to the same quern as no. M 1664.
Classical to Roman.

80. Fragment of the *onos* of a hopper-rubber (M 1664)
From the cistern no. IV, dated from the Archaic to Byzantine period.
Th. 0.135 m., l. of the preserved sides: 0.08-0.08 m.
Grey vesicular volcanic rock.
Fragment of the grinding surface, the hopper and the two sides of the *onos*. Diagonal striations on the grinding surface forming the herringbone pattern carved roughly by means of a drill and smoothed due to the long period of use. It probably belongs to the same quern as no. M 1663.
Classical to Roman.

81. Fragment of the *onos* of a hopper-rubber (M 1710)
From the well no. 24, dated from the Geometric to Roman period, which was linked to a subterranean gallery.
H. 0.11 m., w. of the rim: 0.04-0.08 m., max. dim.: 0.17 m., min. dim.: 0 . 035 m.
Grey volcanic rock with white inclusions (andesite or rhyolite).
Fragment of the hopper, the grinding surface and two sides of an *onos*. Straight parallel striations on the grinding surface carved roughly by means of a point.
Classical to Roman.

82. Fragment of the *onos* of a hopper-rubber (M 317)
From a modern deposit over the grave 9, dated in the last century.
H. 0.035-0.06 m., max. dim.: 0.09 m., min. dim.: 0.07 m., dim. of the socket: 0.03 x 0.025 x 0.03 m.
Grey vesicular volcanic rock.
Fragment of the grinding surface, the hopper and the one side of the *onos*. Straight

parallel striations on the grinding surface carved by means of a drill. The socket for the insertion of the lock of the *kope* is preserved on the one side of the quern, where traces of the lead have been remained.
Hellenistic to Roman.

83. Fragment of the *myle* of a hopper-rubber (M 656)
From the Hellenistic/Roman deposit excavated near to the kiln for the fabrication of red color on the west side of Road I.
L. 0.033-0.04 m., max. dim. 0.132 m., min. dim. 0.091 m.
Grey volcanic rock.
Fragment of *myle*. Striations in the herringbone pattern on its flat grinding surface carved by means of a point. Striations fade out due to the long period of use.
Hellenistic to Roman.

84. Fragment of the *myle* of a hopper-rubber (M 720)
From the destruction filling of the kiln for the fabrication of red colour and the adjacent installations to the west of ancient Road I, dated from the last quarter of the third to the first half of the 2nd cent. B.C. (c.f. M 656 and M 708).
Th. 0.035 m., max. dim. 0.12 m., min. dim. 0.09 m.
Grey vesicular volcanic rock.
Fragment of *myle*. Striations in the herringbone pattern on its flat grinding surface carved by means of a point.
Classical to early Hellenistic.

85. Fragment of the *myle* of a hopper-rubber (M 846)
From a Hellenistic/Roman layer of ancient road II. It was found underneath a pipe (no. Ω12).
H. 0.06 m., l. of the preserved sides: 0.09-0.19 m.
Grey vesicular volcanic rock.
Fragment of *myle*. Flat grinding surface without striations. Traces of sediments on its surfaces due to its contact to the ceramic pipe no. Ω12.
Classical to Hellenistic.

86. Fragment of the *myle* of a hopper-rubber (M 173)
From a layer of the early 3rd cent. A.D. excavated close to the Roman villa.
Th. 0.048-0.046 m., max. dim. 0.155 m., min. dim. 0.132 m.
Grey vesicular volcanic rock.
Fragment of the grinding surface, the side and the base of a *myle*. Flat grinding surface without striations.
Hellenistic to Roman.

87. Fragment of the *myle* of a hopper-rubber (M 1670)
From the well no. 24, dated from the Geometric to Roman period, which was linked to a subterranean gallery.
H. 0.045-0.06 m., max. dim.: 0.153 m., min. dim.: 0.065 m.
Black vesicular volcanic rock.
Fragment of the grinding surface and the bottom of the *myle*.
Late Hellenistic to Roman.

88. Fragment of the *myle* of a hopper-rubber (M 1662)
From the context of the cistern IV dated from the Archaic to Medieval period.
H. 0.052-0.062 m., max. dim.: 0.134 m., min. dim.: 0.079 m.
Black vesicular volcanic rock.
Fragment of the *myle*. Flat grinding surface without striations.
Classical to Roman.

89. Fragment of the *myle* of a hopper-rubber (M 1665)
From the context of the cistern IV dated from the Archaic to Medieval period.
Th. 0.03-0.04 m., max. dim.: 0.155 m., min. dim.: 0.13 m.
Black vesicular volcanic rock.
Fragment of the *myle*. Flat grinding surface without striations.
Classical to Roman.

90. Fragment of the *myle* of a hopper-rubber (M 1634)
From a late Classical/Hellenistic layer excavated underneath Makrygiannis' street
L. 0.055 m., l. of the preserved sides: 0.197-0.135 m.
Grey volcanic rock.
Fragment of *myle*. Striations on its flat grinding surface are separated in zones: herringbone and parallel straight striations. They are carved by means of a point.
Classical to Hellenistic.

91. Fragment of the *myle* of a hopper-rubber (M 1668)
From the Roman/early Byzantine well no. 15.
H. 0.07-0.078 m., max. dim.: 0.205 m., min. dim.: 0.04 m.
Grey volcanic rock with white inclusions.
Fragment of *myle*. Striations in the herringbone pattern on its flat grinding surface carved by means of a point. The bottom preserves traces of the quarry pick or point.
Hellenistic to Roman.

92. Fragment of the *myle* of a hopper-rubber (M 1885)
From the late Roman/early Byzantine well no. 16.
H. 0.07 m., max. dim. 0.255 m., min. dim. 0.21 m.
Black vesicular volcanic rock.
Fragment of the *myle*. Grinding surface without striations. The bottom is carved roughly by means of a quarry pick or point.
Hellenistic to Roman.

93. Fragment of the *myle* of a hopper-rubber (M 1837)
From the Roman/Late Roman cistern VII.
H. 0.036-0.033 m., max. dim.: 0.094 m., min. dim.: 0.058 m.
Grey vesicular volcanic rock.
Fragment of *myle*. Diagonal striations on its flat grinding surface carved roughly by means of a point. The bottom preserves traces of the quarry pick or point.
Classical to Roman.

94. Fragment of the *myle* of a hopper-rubber (M 1669)
From the Roman well no. 26.
H. 0.047-0.049 m., max. dim.: 0.09 m., min. dim.: 0.03 m.
Grey vesicular volcanic rock.
Fragment of *myle*. Diagonal striations on its flat grinding surface carved by means of a point.
Classical to Roman.

95. Fragment of the *myle* of a hopper-rubber (M 2281)
Unknown origin
Th. 0.065-0.077 m., max. dim. 0.20 m., min. dim. 0.0162 m.
Grey vesicular volcanic rock.
Fragment of the grinding surface and the side. Flat grinding surface incised with the herringbone pattern, which has a double central line. Incisions carved by means of a drill.
Classical to early Hellenistic.

96. Fragment of the *myle* of a hopper-rubber (M 489)
From a Roman deposit related to the repair of ventilation/impuration shafts of the Ancient Road I.
H. 0.031-0.035 m., max. dim. 0.091 m., min. dim. 0.075 m.
Grey volcanic rock with white inclusions (andesite/rhyolite).
Fragment of *myle*. Diagonal striations on its flat grinding surface carved roughly by means of a point.
Classical to Roman.

97. Fragment of the *myle* of a hopper-rubber (M 1805)
From a deposit dated from late Classical to Roman date excavated underneath Athanassiou Diakou str.
H. 0.06 m., max. dim.: 0.097 m., min. dim.: 0.057 m.
Grey vesicular volcanic rock.
Fragment of *myle*. Diagonal striations on its flat grinding surface carved by means of a point.
Hellenistic to Roman.

98. Fragment of the *myle* of a hopper-rubber (M 596)
Built in wall Tx 427.
H. 0.056-0.06 m., l. of the preserved sides: 0.11-0.13 m.
Grey volcanic rock with white inclusions.
Fragment of *myle*. Flat grinding surface without striations.

99. Fragment of the *myle* of a hopper-rubber (M 1157)
Built in the late Roman wall Tx 9.
H. 0.062 m., max. dim.: 0.24 m., min. dim.: 0.035 m.
Grey volcanic rock with white inclusions.
Fragment of *myle*. Striations in the herring-bone pattern on its flat grinding surface carved by means of a point. The bottom preserves traces of the quarry pick.
Hellenistic to Roman.

100. Fragment of the *onos* of a rotary quern (M 632)
From the Hellenistic/Roman wall of the central drain of ancient Road II.
H. 0.055-0.012 m., ratius: ~0.15 m., dim. of the socket in the hopper: 0.03 x 0.035 m., and that in the circumference: 0.035 x 0.03/0.025 m.
Black vesicular volcanic rock.
Fragment of the grinding surface, the hopper and the circumference of the *onos*. The one rectangular socket for the insertion of the wooden frame on the hopper and the rectangular socket for the insertion of the wooden handle on the circumference are preserved. Flat grinding surface without striations.
Late Hellenistic to Roman.

101. Fragment of the *onos* of a rotary quern (M 1653)
From the Medieval well no. 47, found beneath Makrygiannis street, to the southeast of the excavated area.
H. 0.08 m., ratius: ~0.20 m. dim. of the socket in the hopper: 0.045 x 0.035 x 0.02 m. and that in the circumference: 0.035 x 0.03/0.02 m.
Black vesicular volcanic rock.
Fragment of the grinding surface, the hopper and the circumference of the *onos*. The one rectangular socket for the insertion of the wooden frame on the hopper is preserved. Flat grinding surface with traces of point in a radiant arrangement.
Roman to early Byzantine.

102. Fragment of the *onos* of a rotary quern (M 393)
From the Roman well no. 57, found beneath a modern building on Byronos street, close to Dionyssiou Areopagitou street.
H. 0.075 m., ratius: ~ 0.20 m. dim. of the socket in the hopper: 0.045 x 0.035 x 0.02 m. and that in the circumference: 0.035 x 0.03/0.02 m.
Black vesicular volcanic rock.
Fragment of the grinding surface, the hopper and the circumference of the *onos*. Flat grinding surface with one radiant striation and traces of point in a radiant arrangement.
Roman.

103. Fragment of the *onos* of a rotary quern (M 450)
From a late Roman deposit to the west of the ancient road I and to the north of the workshops.
H. 0.085 m., radius: ~0.25 m., dim. of the socket in the hopper: 0.03 x 0.035 x 0.02 m., and that in the circumference: 0.02 x 0.015/0.045 m.
Black vesicular volcanic rock.
Fragment of the grinding surface, the hopper and the circumference of the *onos*. The one rectangular socket for the insertion of the wooden frame on the hopper and the rectangular socket for the insertion of the wooden handle on the circumference are preserved. Flat grinding surface without striations.
Roman.

104. Fragment of the *onos* of a rotary quern (M 322)
From a surface layer in the east part of the plot.
H. 0.09 m., preserved radius: 0.17 m.
Black vesicular volcanic rock.
Fragment of the grinding surface, the hopper and the circumference of the *onos*.
Concave grinding surface without striations due to the long period of use.
Roman.

105. Grinder (M 694)
From the late Roman wall Tx 208.
dim.: 0.15 x 0.153 x 0.12 m.
Grey vesicular volcanic rock.
Spherical grinder with one flat surface.
Roman to Medieval.

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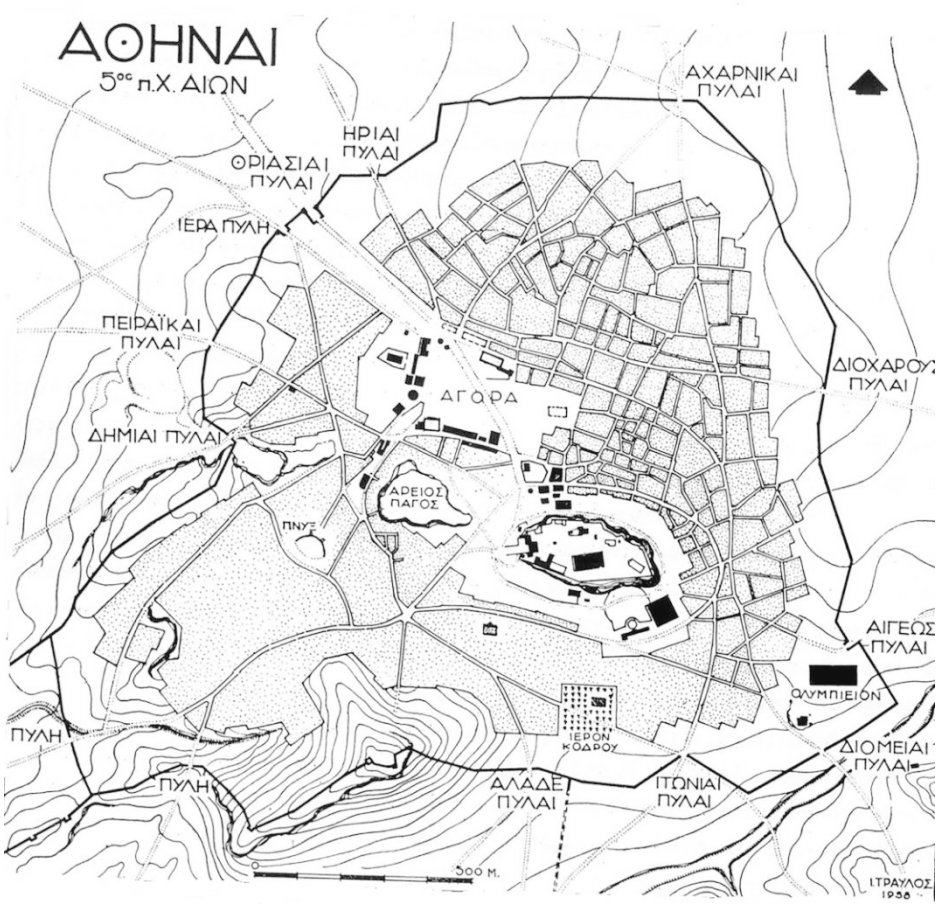


Fig. 1. Plan of Athens of 5th cent. B.C. after J. Travlos and the METRO 'Acropolis' excavation site (Travlos 1993, 51, fig. 20).

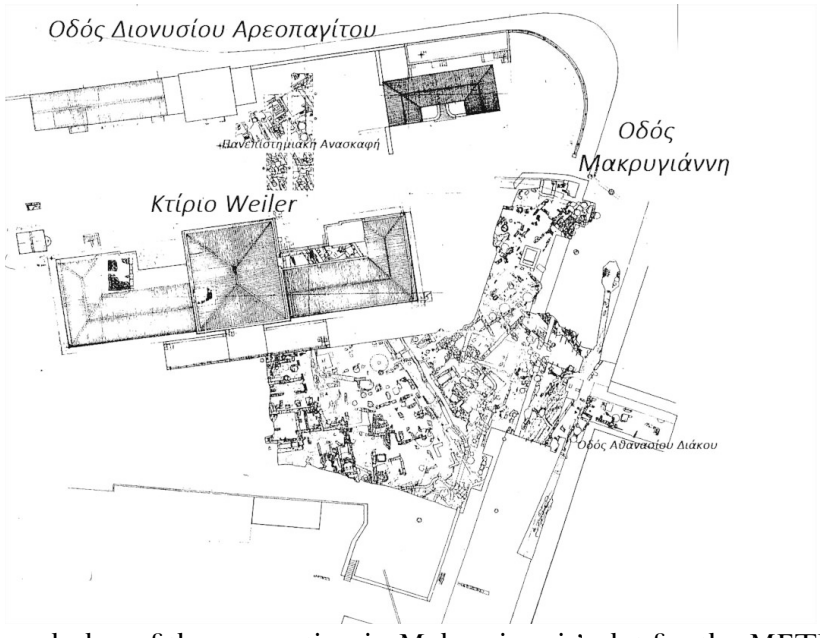


Fig. 2. General plan of the excavation in Makrygiannis' plot for the METRO station "Acropolis" (Α΄ Ε.Π.Κ.Α. archives).

Fig. 3. General plan of the excavated site with the wells found (A΄ Ε.Π.Κ.Α. archives).

Fig. 4. General plan of the tunnels excavated by the T.B.M. with the wells found (A΄ Ε.Π.Κ.Α. archives).

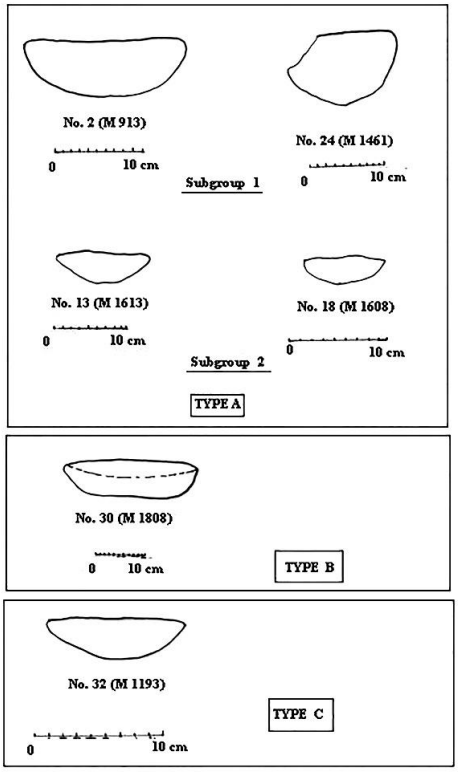


Fig. 5. Profile sections of saddle-querns of different types (Eir. Poupaki).

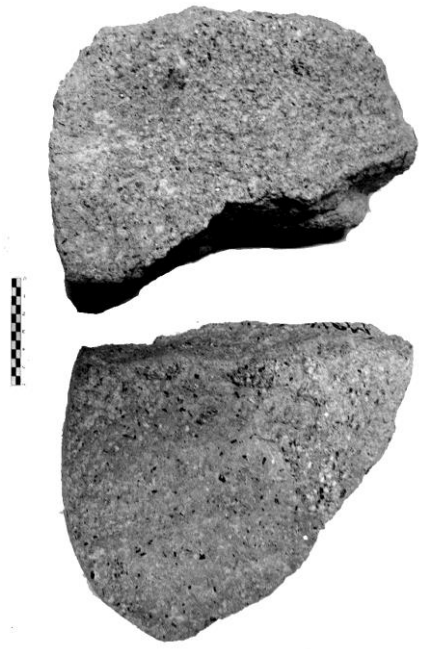


Fig. 6. Saddle-querns from a "Mycenaean Pit", M 912-M 913 (Eir. Poupaki).

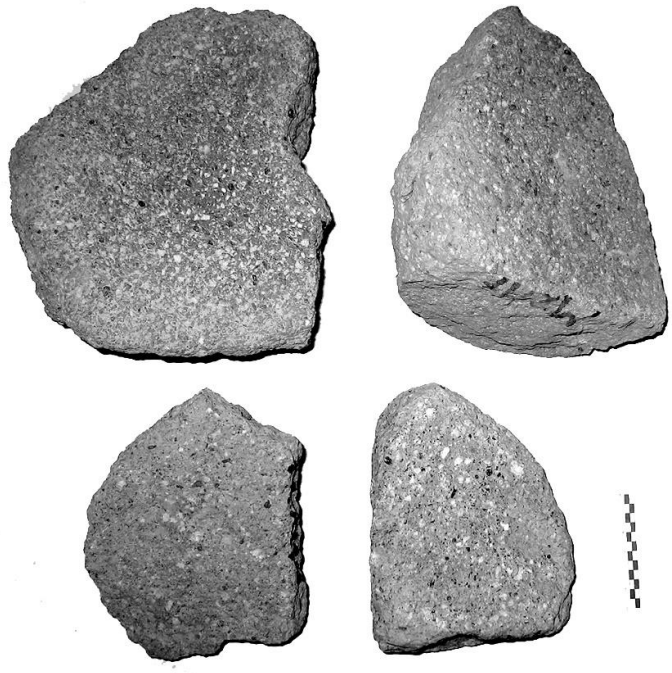


Fig. 7. Saddle-querns from the Geometric well no. 20: M 2116, M 2117, M 2118, M 2119 (Eir. Poupaki).

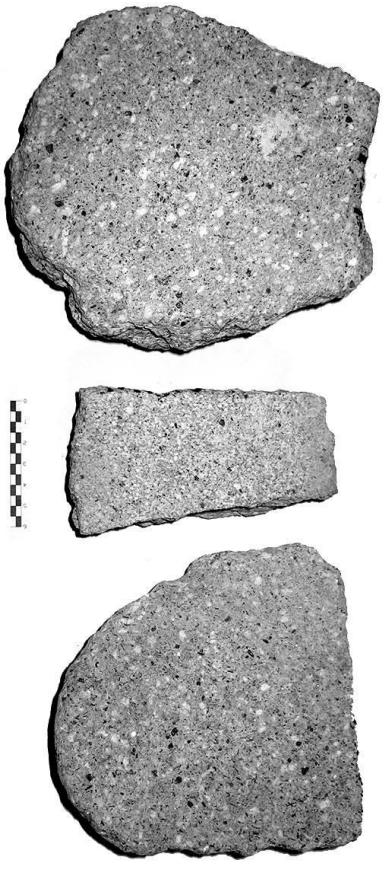


Fig. 8. Saddle-querns from an early-classical deposit: M 1612, M 1613, M 1614, M 1615 (Eir. Poupaki).

Fig. 9. Saddle-quern from grave no. 113, M 1835 (N. Antoniadis).

Fig. 10. Fragment of upper quern or grinder, M 1810 (Eir. Poupaki).

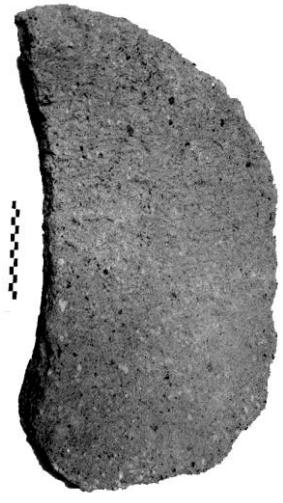


Fig. 11. Saddle-quern of type B, M 1808 (Eir. Poupaki).

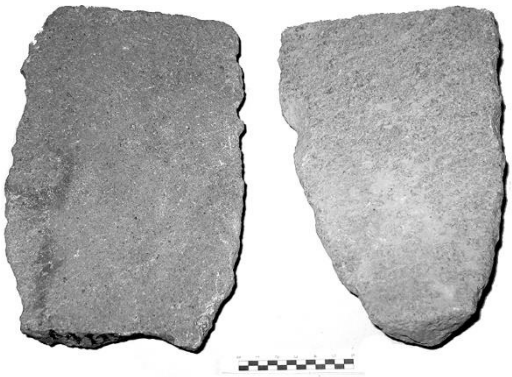


Fig. 12. Saddle-querns from wells M 1193, M 1933 (Eir. Poupaki).

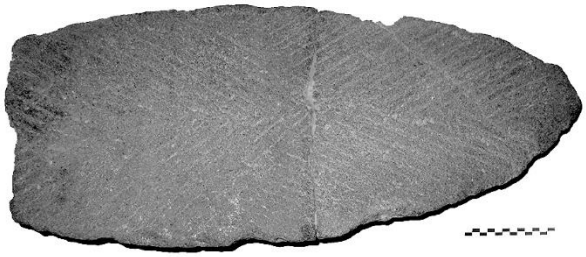


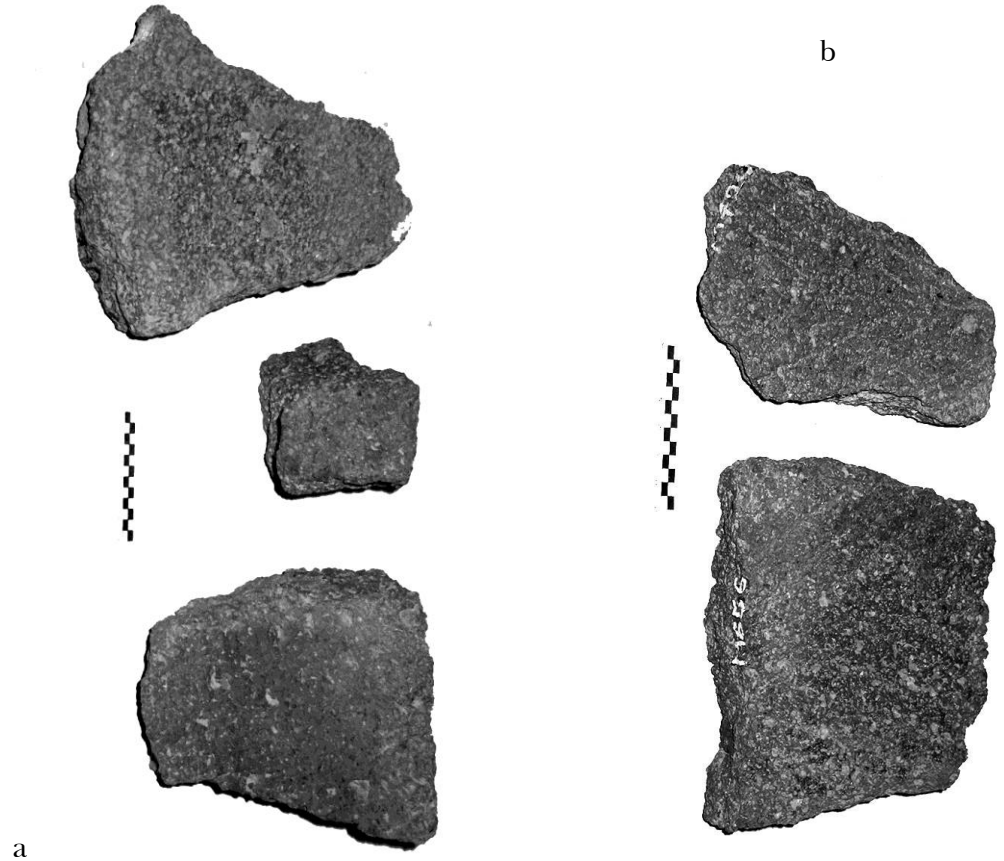
Fig. 13. Saddle-quern no. 13 (M 860+M 532) (Eir. Poupaki).

Fig. 14. Grinder M 2115 (Eir. Poupaki).

Fig. 15. Grinders M 405-M 1074 (Eir. Poupaki).

Fig. 16. Grinders M 412-M 1717 (Eir. Poupaki).

Fig. 17. Grinders M 694 (N. Antoniadis).



a b

Fig. 18. Hopper-rubbers from the walls of workshops: a) M 708, M 778, M 1055, b) M 720, M 656 (Eir. Poupaki).

Fig. 19. Hopper-rubbers from the substructure of ancient road I (M 869-M 295) (Eir. Poupaki).

Fig. 20. Hopper-rubber M 1634 (Eir. Poupaki).

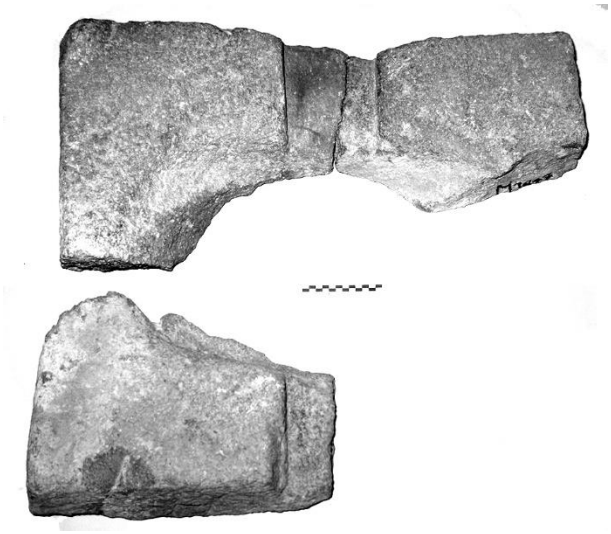


Fig. 21. Hopper-rubber from the late Roman well 1 M 1847, M 1842, M 348 (Eir. Poupaki).

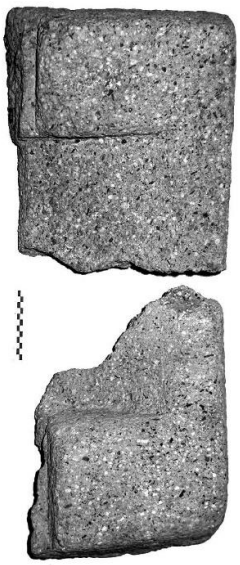


Fig. 22. Hoppers-rubbers carved in andesite (?) M 1710, M 2580 (Eir. Poupaki).

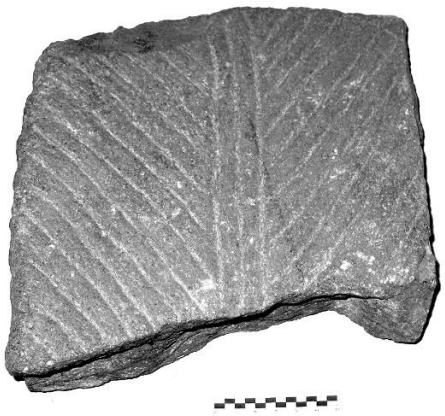


Fig. 23. Hopper-rubber M 2281 (Eir. Poupaki).

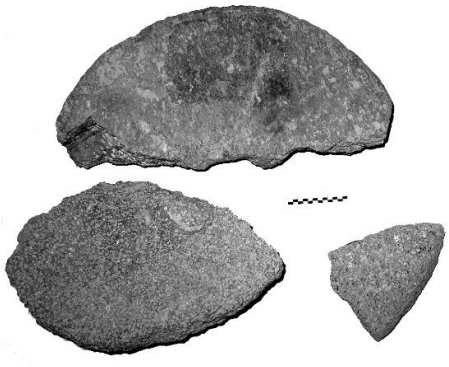


Fig. 24. Rotary querns M 1632, M 1653, M 450 (Eir. Poupaki).

Fig. 25. Hopper-rubber M 1921 (Eir. Poupaki).