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ARCHAEOLOGICAL MUSEUM OF THESSALONIKI

ΕΚΑΤΟ ΧΡΟΝΙΑ ΕΡΕΥΝΑΣ
ΣΤΗΝ ΠΡΟΪΣΤΟΡΙΚΗ
ΜΑΚΕΔΟΝΙΑ

A CENTURY OF RESEARCH
IN PREHISTORIC
MACEDONIA

1912-2012



ΠΡΑΚΤΙΚΑ
ΔΙΕΘΝΟΥΣ ΣΥΝΕΔΡΙΟΥ

Αρχαιολογικό Μουσείο Θεσσαλονίκης
22-24 Νοεμβρίου 2012

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Archaeological Museum of Thessaloniki
22-24 November 2012

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Μουσειολογία | Κοινωνική Αρχαιολογία Museology | Social Archaeology

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AAA	Αρχαιολογικά Ανάλεκτα εξ Αθηνών, Αθήνα
ΑΔ	Αρχαιολογικόν Δελτίον, Αθήνα
ΑΕ	Αρχαιολογική Εφημερίς, Αθήνα
ΑΕΜΘ	Το αρχαιολογικό έργο στη Μακεδονία και στη Θράκη, Θεσσαλονίκη
ΑΕΜΘ 20 χρόνια	Π. Αδάμ-Βελένη & Κ. Τζαναβάρη (επιμ.), 2009. Επετειακός τόμος, Το αρχαιολογικό έργο στη Μακεδονία και στη Θράκη 20 χρόνια, Θεσσαλονίκη
Αρχαία Μακεδονία III	Ανακοινώσεις κατά το Γ' διεθνές συμπόσιο, Θεσσαλονίκη 21-25 Σεπτεμβρίου 1977, Θεσσαλονίκη 1983
Αρχαία Μακεδονία IV	Ανακοινώσεις κατά το Δ' διεθνές συμπόσιο, Θεσσαλονίκη 21-25 Σεπτεμβρίου 1983, Θεσσαλονίκη 1986
Αρχαία Μακεδονία V	Ανακοινώσεις κατά το Ε' διεθνές συμπόσιο, Θεσσαλονίκη 10-15 Οκτωβρίου 1989, Θεσσαλονίκη 1993
Αρχαία Μακεδονία VI	Ανακοινώσεις κατά το ΣΤ' διεθνές συμπόσιο, Θεσσαλονίκη 15-19 Οκτωβρίου 1996, Θεσσαλονίκη 1999
Αρχαία Μακεδονία VII	Ανακοινώσεις κατά το Ζ' διεθνές συμπόσιο, Θεσσαλονίκη 14-18 Οκτωβρίου 2002, Θεσσαλονίκη 2007
ΠΑΕ	Πρακτικά της εν Αθήναις Αρχαιολογικής Εταιρείας, Αθήνα
AJA	<i>American Journal of Archaeology</i> , Cambridge, Mass
BAM	<i>Beiträge zur ur- und frühgeschichtlichen Archäologie des Mittelmeer-Kulturraumes</i> , Bonn
BAR	<i>British Archaeological Reports</i> , Oxford
BSA	<i>The Annual of the British School at Athens</i> , London
BCH	<i>Bulletin de Correspondance Hellénique</i> , Paris
JAS	<i>Journal of Archaeological Science</i> , Amsterdam
PPS	<i>Proceedings of Prehistoric Society</i> , Cambridge

Lete I. The pottery of a neolithic site in central Macedonia 100 years after

Anastasia Dimoula • Areti Pentedeka • Konstantinos Filis

The historical background of research

It was exactly a century ago from this anniversary conference that Alan Wace and Maurice Thompson published their pioneering work for prehistoric research in Greece *Prehistoric Thessaly*¹, following the earlier fundamental work of Christos Tsoundas in the area². Moreover, exactly a century ago, Wace shifted the interest further to the north, to Macedonia, and was the first to classify and characterise the prominent landscape features, the mounds or, locally called, *toumbes*³. Unfortunately, exactly a century ago and although Macedonia was liberated and incorporated to the Greek state, the outbreak of the Balkan Wars and World War I two years later disrupted research in the area.

Nevertheless, the allied British and French forces which settled the area of Thessaloniki in late 1915 in order to support the eastern front of the Great War, conducted military construction works, which in many cases brought to light the material evidence of the distant past of the Macedonian land, triggering the interest of several officers who had academic backgrounds in humanities⁴. This was the case in the region northwest of the city of Thessaloniki, near the Derveni passage, a hilly area connecting the Thessaloniki and Langadas plains. There, British troops were settled at the village of Aivatli, modern Lete, to fortify the area with trenches. Their extensive excavations went through a mound dated to the Bronze and Iron Age⁵, but the most interesting find was in the north of the village, where two pits containing distinctive fragments of pottery were located in a depth 1-2 m below the surface (fig. 1)⁶.

The finds from Aivatli were initially kept in the White Tower in Thessaloniki, along with the rest of the finds from the British areas of activity, and after the war they were all transferred to the British Museum⁷, comprising the British Salonika Force Collection, recently located in the storerooms, re-studied and published online⁸. They were originally published by Prof. Gardner, and their eloquent description highlighted the close affinity with the early Thessalian wares⁹. Indeed, these pottery sherds comprised the first evidence of Early Neolithic habitation in central Macedonia and were not enriched for almost a century¹⁰.

The site of Aivatli is the only Early Neolithic site mentioned in the Interwar composite works of Stanley Casson and Walter Heurtley regarding the Prehistory of Macedonia¹¹, as well as in David French's *Index of Prehistoric Sites in Central Macedonia* decades later, where he differentiated the Neolithic and Bronze Age settlements, renaming them after Lete I and II respectively¹². Until the turning point of the 21st century, the early phases of the Neolithic were investigated in the western part of Macedonia, through the large systematic excavations of Nea Nikomedeia in Imathia prefecture¹³ and Servia in Kozani¹⁴, along with survey projects conducted in the region, such as in the area of Kitrini Limni¹⁵, and

1. Wace & Thompson 1912.

2. Τσούντας 1908.

3. Wace 1913-1914.

4. Βοκοπούλου 1986. Kotsakis 2009.

5. Rey 1921, 117.

6. Gardner & Casson 1919-1920.

7. Forsdyke 1925.

8. Shapland 2012. Kanatselou & Shapland present volume. www.britishmuseum.org.

9. Gardner & Casson 1919-1920, 13-15.

10. For a detailed overview of the history of research regarding the Early Neolithic Period in Macedonia see Dimoula in press b.

11. Casson 1926, 135. Heurtley 1939, 26.

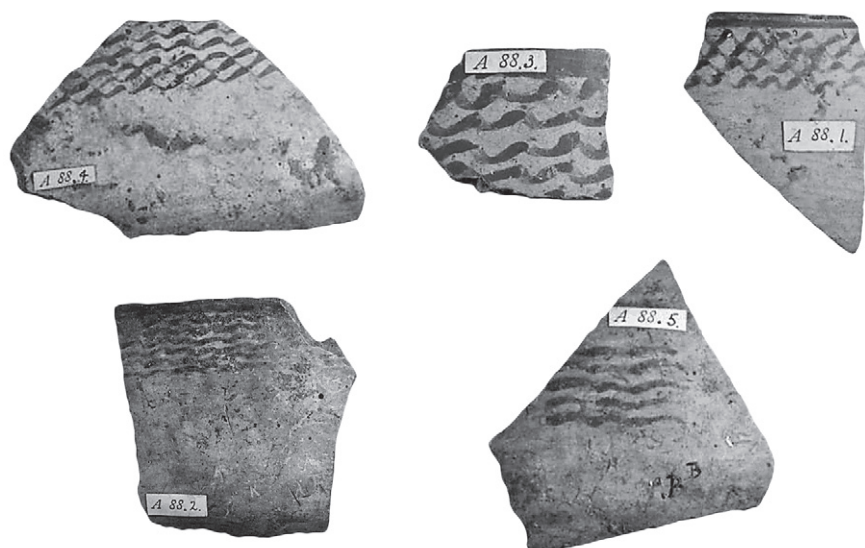
12. French 1967, 19.

13. Pyke & Yiouni 1996.

14. Ridley et al. 2000.

15. See Χονδρογιάννη-Μετόκη 2009a, where all the relevant bibliography is cited.

Fig. 1.
Aivatli, modern Lete.
Pottery sherds recovered
during World War I.
[www.britishmuseum.org]



rescue excavations in plots, such as in Giannitsa B in Pella¹⁶. In central Macedonia, the systematic survey projects, such as in the Langadas basin¹⁷, located early sites, but the available data was not sufficient to define the characteristics of the period.

It is during the last decade that research managed to collect substantial data regarding the early phases of the Neolithic from the entire area of Macedonia, west to east (fig. 2), possibly due to the questions posed in large-scale excavation programmes, such as Paliambela in Pieria or Dikili Tash in Drama plain, or the presence of trained and alerted personnel responsible for excavations conducted due to large public works, such as extended sites in Kozani or Imathia¹⁸. As a result, it is only recently that research is in the position to describe, characterise and interpret the fragmented and often mundane evidence of the distant past of human habitation in the diverse landscape of the region¹⁹.

The excavation data

The exact location of the neolithic site of Lete remained unknown for almost a century, as it was not located in the context of recent survey projects²⁰. This was due to geomorphological processes of erosion in the slopes of the western verge of the Langadas basin, which buried the archaeological remains under a massive alluvial layer. In 2002 rescue excavations in plots in the northwestern end of the modern village revealed the remains of a neolithic settlement under a surface layer often reaching 1 m. The similarities in the characteristics of material culture led the excavators to identify it as the site of Aivatli, investigated in the beginnings of the previous century²¹.

The architectural remains of the settlement²² include a series of pits hewn out of the natural bedrock (fig. 3)²³, which according to their morphological characteristics, the structural elements they preserve (parts of floors and remains of vertical and horizontal structures), as well as the structures they contain, represent two subterranean houses with auxiliary structures, such as storage and disposal pits, with intermediate activity areas. All the pits contained large quantities of pottery, a few bone and stone, chipped and ground, tools, scant

16. Χρυσοστόμου 1996.

17. Andreou & Kotsakis 1994, 1999.

18. The Early Neolithic sites investigated through excavation processes so far in the region of Macedonia are: Fylotsairi Mavropigis (Karamitrou-Mentessidi et al. 2013), Paliambela Roditis and Varemnoi Goules in Kozani (Χονδρογιάννη-Μετόκη 2009b), Filotas in Florina (Ζιώτα & Μοσχάκης 1999), Knidi (Καραμήτρου 2005) and Kremastos in Grevena (Τουφεξής 1994), Lefkopetra in Imathia (Στεφανή 2000), Apsalos (Χρυσοστόμου & Γεωργιάδου 2001) and Drosia (Κώτσος 1992) in Pella, Paliambela (Κωτσάκης & Halstead 2004), Revenia (Μπέσιος & Αδακτύλου 2004) and Ritini (Μπέσιος et al. 2003) in Pieria, Lete I (Τζαναβάρη & Φίλης 2002), Lete III (Τζαναβάρη et al. 2002) and Mikri Volvi (Λιούτας & Κώτσος 2006) in Thessaloniki and Dikili Tash in Drama plain (Lespez et al. 2013).

19. For an overview of archaeological research in the region see Andreou et al. 2001. Κωτσάκης 2007. Kotsos & Urem-Kotsou 2006.

20. It is mentioned in Γραμμένος 1991, 102 and Γραμμένος et al. 1997, 24, but was not located in the systematic survey project of the Langadas basin, conducted by the Aristotle University of Thessaloniki, see Andreou & Kotsakis 1999.

21. Τζαναβάρη & Φίλης 2002.

22. Τζαναβάρη & Φίλης 2009. Παππία & Τζαναβάρη 2010.

23. In G. Vasileiou plot, a large ellipsoid pit (5.5 m diameter) and two smaller ones (1 m diameter) were investigated. In I. Georganta-A. Despoudi plot, a large circular pit (6 m diameter) consisting of three smaller ones, was investigated, along with a smaller one (1.36 m diameter).

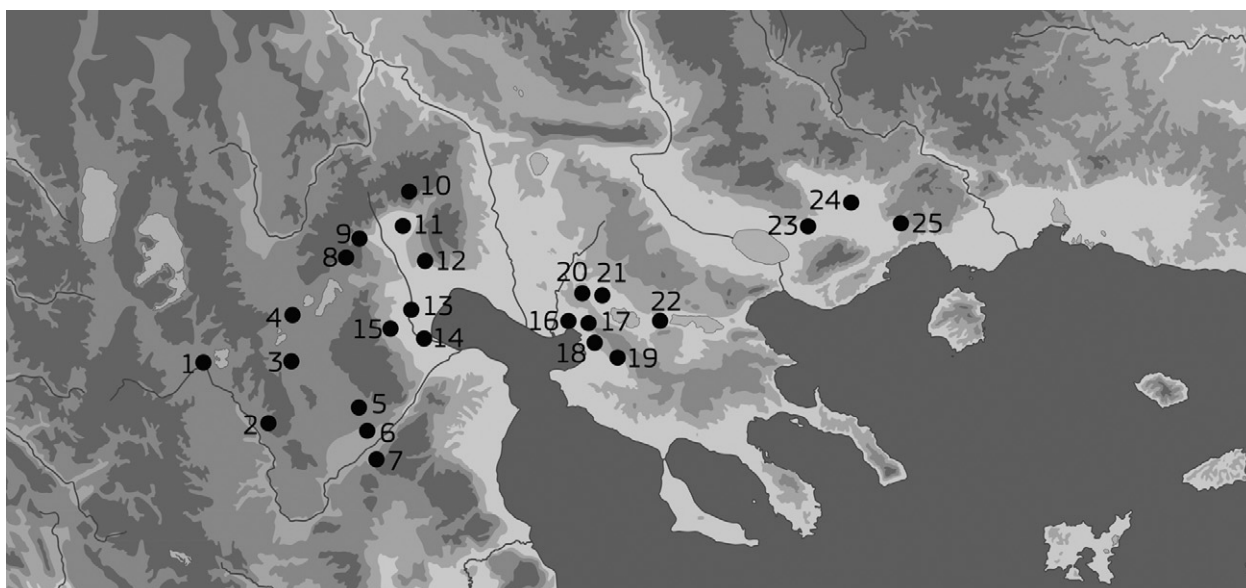


Fig. 2. Sites in Macedonia bearing Early and Middle Neolithic deposits: 1. Dispilio, 2. Knidi, 3. Fyllotsairi Mavropigis, 4. Filotas, 5. Paliambela Roditis, 6. Varenenoi Goules, 7. Servia, 8. Lefkopetra, 9. Nea Nikomedeia, 10. Drosia, 11. Apsalos, 12. Giannitsa, 13. Paliambela, 14. Revenia, 15. Ritini, 16. Stavroupoli, 17. IFTh, 18. Therme, 19. Vasilika, 20. Lete I, 21. Lete III, 22. Mikri Volvi, 23. Dimitra, 24. Sitagroi, 25. Dikili Tash.



Fig. 3.
Lete I. Large pit interpreted
as subterranean house
(after Tzanavari & Filis 2002).

clay sling bullets and animal bones. Moreover, part of a ditch²⁴, also hewn out of the natural bedrock, was investigated.

This evidence suggests that the settlement was of the flat extended type, with ditches determining its spatial boundaries, households operating in subterranean houses with different in-door and out-door auxiliary structures and intermediate open-air areas for various activities. Moreover, habitation is often observed to shift horizontally in space, creating different clusters,

often dated to different periods²⁵. This type of perception, organisation and use of space is well known from an array of neolithic sites investigated in Macedonia in the past decades²⁶.

25. It is worth mentioning that more recent rescue excavations in plots of the modern village of Lete investigated other clusters of habitation and more specifically in the center of the village, which yielded different types of pottery, probably belonging to slightly later periods (Παππά & Τζαναβάρη 2010).

26. See Κωτσάκης 2004 and mainly Παππά 2008, where all the flat sites in Greece are discussed and the relevant bibliography is cited. In the adjacent area of Lete I the flat sites investigated are Lete III, in a distance of 3.5 km (Τζαναβάρη et al. 2002) and Mikri Volvi in

24. In S. Nikas plot, V shaped, with 4 m width and 1 m depth.

The study of the pottery assemblage, objectives and methodology

The study of the pottery assemblage of Lete I was conducted in multiple levels, adopting a methodology that combines macroscopic examination and microscopic-petrographic analysis. This approach aimed firstly in the morphological and typological study of pottery, its comparison with other published ceramic assemblages from the wider area and finally its relative dating. Such observations would help to refine the chronological boundaries of the use of the settlement and further elucidate the use of space and architectural features in particular.

At a second level, the provenance of pottery and the technological aspects of pottery manufacture were investigated, through the examination of the raw materials and recipes used for ceramic production, as well as the different techniques used for the building and decoration of vessels. The geological characterisation of the ceramic fabrics and the reconstruction of all pottery manufacture stages would enable the discussion of issues concerning pottery production, circulation and consumption²⁷.

Finally, it should be mentioned that interdisciplinary approaches to neolithic pottery from Macedonia are rather limited²⁸ and it is only recently that analytical methods are widely applied to the study of pottery assemblages²⁹. In this context, the present study aims to offer a complete data set that will serve for future reference for large scale pottery studies, in both intra-site and inter-site, regional or inter-regional level.

the eastern part of the Langadas basin (Λιούτας & Κώτσος 2006), while in the broader area of Thessaloniki are the sites of Stavroupoli (Γραμμένος & Κώτσος 2002, 2004), IFTh (Παππά 2008, 55-66), Vasilika C (Γραμμένος 1991) and Therme (Παππά 2008, 67-100).

27. It is generally acknowledged that ceramic petrography is the most effective analytical method for investigating issues of ceramic provenance and technology. For large scale applications of the method see Whitbread 1995, Reedy 2008, for regional case studies in Greece see Δημουλά 2014 and Πεντεδέκα 2008, where all the relevant bibliography is cited.

28. Published interdisciplinary pottery studies relate to the following sites: Servia (Jones 1986, 378-382), Dispilio (Δημητριάδης 2002), Nea Nikomedeia (Pyke & Yiouni 1996), Polyplatanos (Papadopoulou et al. 2007, Sakalis et al. 2013), Apsalos (Σαριδάκη 2011), Makriyalos (Hitsiou 2003, Ούρεμ-Κώτσου 2006), Stavroupoli (Ούρεμ-Κώτσου & Δημητριάδης 2002, 2004), Therme (Urem-Kotsou & Dimitriadis 1999), Vasilika C (Jones 1986, 382), Dikili Tash (Tsirtsoni & Yiouni 2002), Sitagroi (Gardner 2003), Limenaria (Γιούννη 2012). A large scale regional interdisciplinary analysis regards the "Black-on-red" painted pottery ware (Malamidou et al. 2006, Kilikoglou et al. 2007), while another concerns the analysis of various surface treatment techniques (Yiouni 2001). Other approaches regard the investigation of the function of pots, especially in relation to food practices (Urem-Kotsou et al. 2002, Urem-Kotsou & Kotsakis 2007). For an overview of research regarding mainly the Late Neolithic pottery from Macedonia see Κωτσάκης 2010.

29. E.g. see the papers by Γιούννη, Σωφρονίδου & Δημητριάδης, Urem-Kotsou et al. in the present volume.

The macroscopic examination of pottery

The ceramic assemblage studied derived from the series of habitation features unearthed in the two plots in the northwest of the village. A total of 10699 sherds were studied macroscopically in terms of context (layer, unit, feature), ware/surface finishing (monochrome, decorated), fabric (quantity and types of inclusions) shape (generic shape, rims, bases, handles, lugs) and post-depositional effects (fracture, weathering). Moreover, a laborious effort was made to join fragments of the same vessel, in order to acquire complete vessel profiles and investigate the relations between the stratigraphic layers.

The majority of the pottery (approximately 98%) is monochrome, with the surface presenting various shades of mainly red colour, but also brown to black. A separate category includes vessels with light coloured surfaces, light brown or cream/buff. The surface treatment includes mainly burnishing, rarely polishing, and very often the application of fine slips. Sooting clouds were frequently observed, as an effect of firing or use ware (cooking pots). The shapes (fig. 4) related to these categories are mainly medium in size, deep –often hemispherical– and shallower bowls, with upright or curved walls or "s" profiles, often plates, hole-mouthed pear-shaped vessels, as well as closed ones, with low upright necks or "s" profiles. The large in size vessels are few, mostly hole-mouthed, closed or pithoid, but also basins, while scarce are the small in size vessels, such as hemispherical cups. The rims of the vessels of all shape categories are vertical or outward, while the bases are flat or convex. The bowls often bear small perforated lugs below the rim, the hole-mouthed vessels bear vertical tubular handles, usually four in number and placed on their lower part, possibly for suspension, while the large vessels are often accompanied by horizontal cylindrical handles. It is worth noting that the light coloured vessels are restricted to medium-small size bowls.

The decorated categories (fig. 5) stand for a very small percent of the pottery assemblage. The most common type of decoration is painted (approximately 1%), commonly on bowls of different sizes. The various types include brown paint on light coloured/cream or buff background, red or brown paint on red or brown background, red paint on cream background or cream paint on red or brown background. The motifs, developed mostly on the upper part of the vessels, include combinations of bundles of rectilinear or wavy lines, along with inverted triangles, occasionally solid. Finally, the less frequent category (less than 1%) includes pithoid vessels of variable sizes which bear impressed and/or incised decoration below the rim.



Fig. 4. Lete I. Vessel shape repertoire: 1. Cooking pot, 2. Bowl, 3. Basin/plate, 4. Bowls, 5. Hole-mouthed vessels, 6. Cups, 7. Closed vessels, storage jar (photos O. Kourakis).

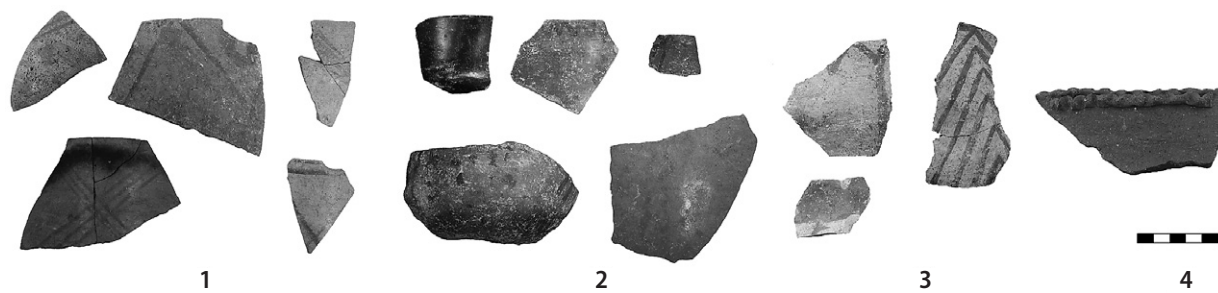


Fig. 5. Lete I. Decorated wares: 1. Brown paint on brown background, 2. Red/brown paint on red/brown background, 3. Red paint on cream background, 4. Plastic decoration (photos K. Filis).

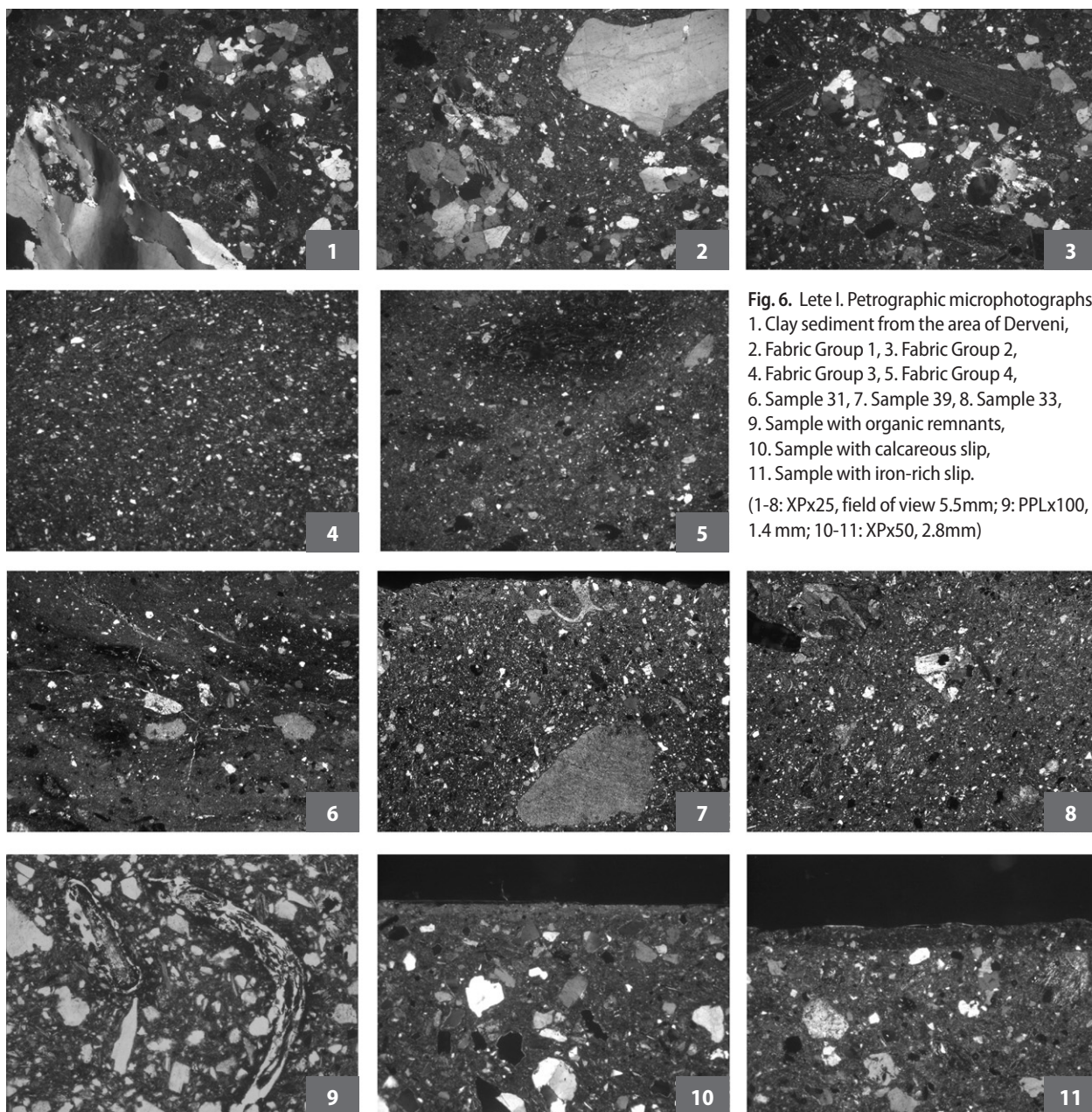


Fig. 6. Lete I. Petrographic microphotographs: 1. Clay sediment from the area of Derveni, 2. Fabric Group 1, 3. Fabric Group 2, 4. Fabric Group 3, 5. Fabric Group 4, 6. Sample 31, 7. Sample 39, 8. Sample 33, 9. Sample with organic remnants, 10. Sample with calcareous slip, 11. Sample with iron-rich slip. (1-8: XPx25, field of view 5.5mm; 9: PPLx100, 1.4 mm; 10-11: XPx50, 2.8mm)

The petrographic analysis of pottery

Based on the results of the macroscopic study of pottery, 53 sherds were selected as samples for petrographic analysis, representative of all the categories of the ceramic fabrics, wares and shapes. The samples were subjected to thin section analysis under the polarizing microscope³⁰, as well as refiring tests (oxidizing conditions, 900°C), in order to detect further variation in the composition of clays³¹. Moreover, some samples of clay sediments deriving from the broader area of the

site and specifically the area of Derveni³² were experimentally processed in the laboratory, in order to obtain a better understanding of the available raw materials in the area (fig. 6.1).

The results of the petrographic analysis indicated the presence of four main fabric groups in the ceramic assemblage, along with three isolated fabrics (fig. 6.2-8).

30. For a detailed description of the method and the equipment see Nesse 2004.

31. For the advantages of the refiring tests of pottery see Whitbread 1995, 390-391.

32. In 2010 the Archaeological Museum of Thessaloniki organised an experimental workshop on neolithic pottery, see Κεφαλίδου et al. 2011. For its purposes raw material prospection was conducted in the area of Derveni, near the Macedonian tombs. The clay sediments collected were experimentally processed, prepared as briquettes, fired, thin sectioned and used as reference in the present study.

Fabric group 1 (25 out of 53 samples) is a fairly homogeneous medium-coarse fabric, characterised by an orange brown micromass in XP with about 3-5% voids. Inclusions are common to frequent, subangular to subrounded, predominantly poorly sorted, maximum grain size 4mm mode size 0.2-0.4mm³³. The fabric consists mainly of gneiss fragments (plagioclase-microcline-quartz) and their mineral components, small amounts of white mica and rarely shale/phyllite and quartzite fragments. The textural concentration features (clay pellets) are very few. This composition is similar with that of the geological formations in the area³⁴, while it bears strong similarities with one sediment sample from Derveni (DER 1).

The samples were refired red to light red, pointing to the use of similar types of clays. Poor sorting and uneven distribution of inclusions, along with weak bimodality in the coarse fraction, could imply the possible addition of non plastic inclusions as temper. The optical activity of the groundmass (active to moderately active) suggests original firing temperatures below 850°C for the majority of the samples. The prevailing firing atmosphere must have been oxidizing/mixed, as indicated by the final colour of the vessel surface. The common presence of grey core and the variation observed in core colour suggest variable firing conditions and possibly short duration of firing.

Two sub-groups can be discerned, one coarse grained, which relates to larger sized vessels (cooking pots, hole-mouthed, pithoid/closed vessels, basins), and one medium grained, related to smaller sized vessels (bowls, cups). The fabric appears to have been used for the production of all monochrome wares.

Fabric group 2 (10 samples) is a rather homogeneous medium-coarse fabric, characterised by an orange brown micromass in XP with about 3-5% voids. Inclusions are common to frequent, subangular to subrounded, predominantly poorly sorted, maximum grain size 4mm, mode size 0.2-0.4 mm. The fabric is characterised by the common presence of shale/phyllite fragments and can be separated into one medium grained and one coarse grained sub-group, which also

contains gneiss and stained quartzite fragments and their mineral components, as well as organic remnants and very few clay pellets. The fabric is compatible to local geology, pointing also to the flysch formations located in the south of the site³⁵.

All samples were refired red, pointing to the use of similar, if not identical, types of clays. Poor sorting and uneven distribution of inclusions, along with weak bimodality in the coarse fraction, could imply to the possible addition of sand as temper, while the organic remnants might indicate the presence of organic temper. The optical activity of the groundmass (moderately active) suggests original firing temperatures below/around 850°C for the majority of the samples.

The coarse sub-group is only related to large sized monochrome vessels (cooking pots, pithoid/closed vessels), while the medium grained relates to small sized vessels (specifically bowls), monochrome or bearing painted decoration (red paint on red background).

Fabric group 3 (9 samples) is a rather homogeneous fine-medium fabric, characterised by a yellow/orange brown micromass in XP with about 3% voids. Inclusions are common to few, subangular to subrounded, relatively well sorted, maximum grain size 1.2 mm mode size 0.1-0.2 mm. The inclusions are similar to fine sand, mainly silicates, quartzite and micas and in some cases organic. The samples were refired red to light red and yellowish red, pointing to the use of diverse types of clays. Good sorting of inclusions implies the procession of raw materials, possibly by sieving. The optical activity of the groundmass (active) suggests original firing temperatures around 800°C.

The fabric was used for the manufacture of small-medium vessels (bowls) and also includes most of the samples bearing painted decoration (brown or red paint on cream background, red paint on red background), as well as a few monochrome larger sized vessels (hole mouthed vessels, basins).

Fabric group 4 (6 samples) is a fairly homogeneous fine fabric, characterised by a yellow brown micromass in XP with about 2-3% voids, around which dark areas are often observed (maybe due to carbon deposition after the destruction of organic material). Inclusions are common to few, subangular to subrounded, relatively well sorted, maximum grain size 1 mm mode size 0.1-0.2 mm. The inclusions are predominately silicates, while two sub-groups can be discerned, according to the presence or absence of organic inclusions.

The samples have been refired yellowish red to dark red, pointing to the use of different type of clays. Bet-

33. The fabric description system followed is the one developed by Whitbread 1995, while the comparative charts are by Matthew et al. 1991 and Bullock et al. 1985.

34. The basement of the Langadas basin consists mainly of gneisses, amphibolites, two mica schists and marble inclusions, interbedded with limestones, quartzites and phyllites, while its western part is covered with Neogene red clay sediments. The Derveni area is characterised mainly by mica gneisses, while in the east develop flysch formations with psammitic limestones, calcareous sandstones and shales and in the west green gneisses, quartzites, reddish schists and cherts. See Higgins & Higgins 1996. Ψιλοβίκος 1977. Kockel et al. 1978.

35. See previous footnote.

ter sorting of inclusions implies the procession of raw materials, possibly by sieving. The optical activity of the groundmass (active) suggests original firing temperatures below 800°C, while carbon deposition points to the short duration of firing.

This group includes exclusively bowls, mainly monochrome and limited with painted decoration (red paint on red background).

Sample L31 has a medium-coarse fabric, characterised by a brown micromass in XP with about 3 % voids. Inclusions are common, subangular to subrounded, predominantly poorly sorted, maximum grain size 2 mm mode size 0.1-0.3 mm. The fabric consists of common micritic calcite fragments, silicates, clay pellets and organic elements. Its composition is compatible to local geology. The sample belongs to a buff monochrome bowl.

Sample L39 has a coarse fabric, characterised by an orange-brown micromass in XP with about 3-5% voids. Inclusions are common, subangular to subrounded, predominantly poorly sorted, maximum grain size 2mm mode size 0.2-0.4 mm. The fabric is characterised by altered igneous rock fragments (plagioclase/sericitised + biotite, plagioclase + amphiboles), pointing to a distant from the site raw material source, such as the ophiolitic unit, located in the northeastern area of the city of Thessaloniki³⁶. The sample belongs to a painted red-on-red bowl.

Sample L33 has a coarse fabric, characterised by a yellow brown micromass in XP with about 3% voids. Inclusions are common, subangular to subrounded, predominantly poorly sorted, maximum grain size 1 mm mode size 0.1-0.2 mm. The fabric is characterised by carbonates, limestone fragments (micritic and rarely sparitic calcite) and few microfossils, along with silicates. Its composition is compatible to local geology, though pointing to the flysch formations in the south of the site. The sample belongs to a red burnished basin.

Discussion of results

The absence of data regarding the early phases of the Neolithic from the broader area of Lete³⁷, in combination with the lack of radiocarbon dates obscure the issue of the dating of the site. The general characteristics of pottery place it in the broader RSBW (red slipped

burnished ware) horizon characterising the latter phases of Early and the early phases of Middle Neolithic in the Aegean, Anatolia and the Balkans³⁸. More specifically, rough parallels can be drawn between the pottery of Lete I and the pottery of Early and Middle Neolithic sites in Thessaly³⁹ and Pieria⁴⁰, while there are clear similarities with the pottery of Nea Nikomedeia⁴¹ and Giannitsa B⁴² in Imathia Prefecture, as well as Anza⁴³ in FYROM or Kovačevo⁴⁴ in southwest Bulgaria. However, the similarities observed regard mostly the shapes repertoire and hardly the decorative practices, as the red on cream and the reverse painted wares prevail in these sites, while the motifs are generally more solid. Moreover, there are similarities with the pottery from the site of Ulucak in the area of Izmir⁴⁵ in western Anatolia, especially in terms of shape and fabric (painted wares are almost absent from this site) and more roughly with Illipinar near the Sea of Marmara⁴⁶, northeastern Thrace sites, such as Polyanitsa⁴⁷, or even the Early Neolithic pottery from Lepenski Vir in Serbia⁴⁸. The fact that the pottery of Lete is characterised by the absence of incised and impressed wares, hallmarks of the latter phases of the Early Neolithic in all the above areas makes its dating more complicating. On the other hand, the painted wares from Lete can be paralleled with respective ones from the Middle Neolithic assemblages from the sites of IFTh⁴⁹, Therme⁵⁰ and Vasilika⁵¹ in the broader area of Thessaloniki or even Dimitra⁵² and Sitagroi⁵³ in eastern Macedonia. To summarize, the shapes repertoire and fabric point to late Early Neolithic phases, while the painted wares to early Middle Neolithic ones. Therefore, the relative chronological horizon proposed here for the pottery of Lete I is between 6000-5500 BC.

As far as pottery technology is concerned, the results of this interdisciplinary study indicated that the neo-

38. Indicatively see Brami & Heyd 2011.

39. For the Early Neolithic pottery from Thessaly see Δημουλά 2014, for the Middle Neolithic pottery see Πεντεδέκα 2008, where all the relevant bibliography is cited.

40. See Παπαδάκου 2011 for Paliambela, Παπαϊωάννου 2011 for Revenia and Ιντζέ 2011 for Ritini.

41. Pyke & Yiouni 1996.

42. Χρυσόςτομου 1996, where the previous bibliography is cited.

43. Sanev 2004, where the previous bibliography is cited.

44. Salanova 2011.

45. Çilingiroğlu 2009.

46. Thissen 2001.

47. Todorova 1990.

48. Perić & Nikolić 2004.

49. Pappa 2007, 269.

50. Pappa 2007, 263-268.

51. Γραμμένος 1991.

52. Γραμμένος 1997.

53. Renfrew et al. 1986.

36. This fabric is almost identical to Fabric Group III from the site of Stavroupoli, see Ούρεμ-Κώτσου & Δημητριάδης 2002, 656. Ούρεμ-Κώτσου & Δημητριάδης 2004, 308.

37. The pottery of the two neighbouring sites Lete III and Mikri Volvi, which study is in progress, bears strong typomorphological similarities with the pottery of Lete I. It is also placed in the broader chronological horizon of the latter phases of the Early Neolithic, although with reservation due to the lack of radiocarbon dates.



Fig. 7. Lete I. Pottery sherds preserving traces of the building technique.

lithic potters of Lete exploited quite limited sources of non calcareous clays in the broader area of the site, the immediate vicinity and possibly formations located to the south. The raw materials were processed either by sieving and levigating or by tempering with mineral inclusions (such as sand) or even organic material (such as chaff) (fig. 6.9). The vessels were built primarily with the coiling technique, as evidenced by the traces on many sherds, with flattened coils placed on top of another and clay parts added on the inner and/or outer surfaces (fig. 7). The surface treatment techniques included polishing, burnishing and the use of slips and paints of various compositions (fig. 6.10-11). Firing probably took place in open fires or pits, where the atmosphere was variable (oxidizing/mixed), the duration short and the temperatures mostly low (<850°C), as indicated by the variation in surface and core colours, and the optical activity of the groundmass. It is worth mentioning that sherds of completely different colours (brown-red-black) were joined to form whole vessels, further confirming this assumption⁵⁴.

The pottery production in Lete I appears to serve the needs of the household, as some basic household utensils are recognized in the assemblage: cooking pots, small storage and transport vessels, vessels for processing (e.g. basins), serving and consuming food and drinks (e.g. bowls, plates, cups), along with more elaborate vessels, perhaps for special occasions. Moreover, this repertoire verifies the assumption that the large pits investigated comprise habitation structures, i.e. houses. The pottery production is characterised by standard choices in all its phases, from the raw material prospection and procession to vessel building and sur-

face treatment and decoration, pointing to the prevalence of one potting tradition that covers the needs of the community for utility, but also exceptional, vessels. It is worth noting that the same clay recipe (as reflected in the ceramic fabric) was used for the production of vessels proposed for a variety of functions, such as cooking pots, storage jars or tableware⁵⁵.

Furthermore, the contextual study of pottery indicated that the deposits of the pits represent single episodes and not different phases of habitation. More specifically, sherds from the upper layers were joined with sherds from the bottom layers, regarding both pit dwellings, suggesting a uniform deposition, which resulted in the good preservation of the pottery, in terms of size and condition of the sherds recovered. On the other hand, the thick surface layers contained pottery heavily weathered, possibly worn by water. This is probably related to erosion processes of the slopes of the Langadas basin, after the abandonment of the pits⁵⁶.

Nevertheless, the inhabitants of Lete I were not isolated from the rest of the neolithic world. The local adoption of vessel shapes and decorative styles known in other regions of the Aegean and the Balkans indicate contacts and some form of communication⁵⁷. Moreover, the results of the petrographic analysis suggested off-site origin at least for two samples. The degree to which Lete I was involved in these intraregional contacts can-

55. This was also observed in the analysis of pottery from Dikili Tash, see Tsirtsoni & Yiouni 2002.

56. It is worth mentioning that the deposits excavated between the pits were completely void of finds, while the deposits of the pits were characterised by a clay loam soil, probably due to the destruction of the various interior clay structures (e.g. floors or plasters), which contributed in the good preservation of pottery.

57. The interdisciplinary study of pottery from an array of Early Neolithic sites in Thessaly indicated a high degree of mobility, regarding people, artefacts and ideas, see Dimoula in press a.

54. This was also observed in the analysis of pottery from Nea Nikomedeia, Pyke & Yiouni 1996, 63-64.

not be easily discerned within the limits of the present study, most importantly due to the lack of relevant data from other sites in the broader region. Hopefully, as research proceeds and more assemblages are studied in an integrated way, more light will be shed on the extent and character of pottery exchange networks, contacts and communication strategies in central Macedonia and beyond.

Conclusion

Prehistoric archaeology in Macedonia grew in the military trenches of the Great War, as Prof. M. Fotiadēs has aptly commented⁵⁸, but a century later prehistoric research in the area has covered much ground, regarding not only extensive fieldwork, excavations and surveys, but theoretical reasoning and methodological approaches. In this sense, the British officers were right to place the site of Lete in the Early Neolithic horizon of the Aegean, but currently were in the position of contextualizing the finds, in terms of space use and time span, we are in the position of studying them with

more sophisticated methods, taking into account theoretical considerations, in order to make inference about the societies they produced, circulated, consumed, discarded or preserved them for the future. Prehistoric archaeology in Macedonia has matured in the trenches of research programmes and rescue excavations, as well as in the storage rooms or laboratories, through the efforts of the people who are interested in the distant past of this area.

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58. Fotiadēs 2001, 117.

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Λητή Ι. Η κεραμική μίας νεολιθικής θέσης στη Μακεδονία 100 χρόνια μετά

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ΠΕΡΙΛΗΨΗ

Η νεολιθική θέση της Λητής εντοπίστηκε και ερευνήθηκε για πρώτη φορά από μέλη των βρετανικών στρατευμάτων κατά τη διάρκεια του Α' Παγκοσμίου Πολέμου. Τα ευρήματα αυτών των ανασκαφών εντάχθηκαν στον χρονολογικό ορίζοντα της Αρχαιότερης Νεολιθικής περιόδου και αποτέλεσαν μέχρι σχετικά πρόσφατα τα πρωιμότερα τεκμήρια νεολιθικής κατοίκησης στην κεντρική Μακεδονία. Μια πρόσφατη ανασκαφή σωστικού χαρακτήρα σε οικόπεδα του σύγχρονου οικισμού αποκάλυψε τα κατάλοιπα ενός πρώιμου νεολιθικού οικισμού, που πιθανότατα ταυτίζεται με αυτόν που διερευνήθηκε στις αρχές του προηγούμενου αιώνα.

Η κεραμική από την τελευταία αυτή ανασκαφή αποτέλεσε αντικείμενο διεπιστημονικής μελέτης (συνδυασμός μακροσκοπικών παρατηρήσεων και πετρογραφικής ανάλυσης) με σκοπό, μέσω της διερεύνησης των μορφολογικών και τεχνολογικών χαρακτηριστικών, να τοποθετηθεί χρονικά στο πλαίσιο των δεδομένων της ευρύτερης περιοχής και να προσφέρει στοιχεία για τη χρήση του χώρου. Επιπλέον, μέσω της λεπτομερούς μελέτης των χαρακτηριστικών που αφορούν στην κατασκευή και χρήση της κεραμικής συζητούνται που σχετίζονται με την παραγωγή και κατανάλωση, αλλά και τον ρόλο που διαδραμάτιζε αυτή η κατηγορία υλικού πολιτισμού στο πλαίσιο των πρώιμων νεολιθικών κοινωνιών.