

Pavlopetri, an Early Bronze Age harbour town in south-east Laconia

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Abstract

This paper presents the preliminary results of the ongoing research at the now submerged prehistoric town at Pavlopetri on the Malea peninsula in south-east Laconia. Through the assessment of the archaeological data available from the 1968 and 2009 survey seasons, this paper aims at presenting the evidence for the Early Helladic occupation of the town, reconstructing the local community's contacts with their Laconian neighbours and beyond, and at placing the harbour town within the context of Early Bronze Age seafaring and exchange networks.

Keywords

Pavlopetri – Seafaring – Trans-Aegean contacts – Underwater archaeology.

Introduction

In 1904 the geologist Phokion Negrís observed submerged architectural remains just off the coast of south-east Laconia at the west end of the Bay of Vátika.¹ The ruins lay between the islet of Pavlopetri and the shore of Pounta at Viglafia just opposite the island of Elaphonisos. The prehistoric town was built between two ridges to the east and west of the habitation area. Negrís's observations remained unconfirmed, however, until 1967 when the oceanographer Nicholas Flemming (University of Southampton) visited the area while searching for evidence for eustatic and sea-level changes in the Aegean, and rediscovered the remains of the submerged prehistoric settlement.²

In 1968 an archaeological team from the University of Cambridge surveyed the submerged remains for six weeks, using a fixed grid system and hand tapes.³

¹ Negrís 1904, 362.

² Flemming 1968a; Flemming 1968b, 51ff.; Mourtzas 1990, 2247–2249.

³ Harding, Cadogan & Howell 1969, 116; Harding 1970; Flemming 1972, 49–69.

The team produced the plan of a prehistoric town, thought to be Mycenaean, which covered an area of about 300 x 100 m, lying in one to four metres of water.⁴ At least 15 separate building complexes (each consisting of a series of rooms) and the remains of another 15 buildings, courtyards and open spaces, five streets, two chamber tombs and 37 slab-lined rectangular cist graves were identified and recorded.⁵ The underwater site was seen to continue southward on the island of Pavlopetri where the remains of walls, archaeological material and quarrying marks were still visible.⁶ On and just off the Pounta shore, an extensive cemetery of small rounded rock-cut graves, already noted by Colonel William Leake in 1806, was also surveyed in 1968. At the north-east end of the cemetery a channel that was cut through three of the prehistoric rock-cut graves led to the salt lake of Strongyli. A bridge (now completely destroyed) was built over the channel, possibly in Late Roman times.⁷

The 1968 project recovered surface finds, mainly pottery and other ceramic artefacts but also blades and chips of obsidian and silex, a bronze figurine of Minoan type and animal bones from the seabed, the Pounta shore and the Pavlopetri islet.⁸ Study of the ceramics indicated an occupation horizon ranging from Early Helladic (EH) II to Late Helladic (LH) IIIB, with a few sherds suggesting contact with the Minoan settlement at Kastri on Kythera and with the Cyclades.⁹ Pots and sherds of Hellenistic and Late Antique date were also recovered.¹⁰ On comparison with the layout of other known prehistoric settlements and on the grounds of the predominance of Late Bronze Age pottery among the collected artefacts, the submerged buildings at Pavlopetri were attributed to the Mycenaean period (LH I-LH IIIB).¹¹

In 2009 the University of Nottingham, in collaboration with the Ephorate of Underwater Antiquities of the Hellenic Ministry of Culture, began a five-year project to outline the history and development of the submerged town at Pavlopetri. The Pavlopetri Underwater Archaeology Project (PUAP) aims to establish when and why the site was occupied and its diachronic character. In addition, through a systematic study of the geomorphology of the area — in collaboration with the Hellenic Centre for Marine Research — the project aims to determine how and when the town and the Elaphonisos Strait became submerged.

⁴ Harding, Cadogan & Howell 1969, 116, 139.

⁵ Harding, Cadogan & Howell 1969, 116-126.

⁶ Harding, Cadogan & Howell 1969, 127.

⁷ Harding, Cadogan & Howell 1969, 127-132.

⁸ Harding, Cadogan & Howell 1969, 132-138.

⁹ Harding, Cadogan & Howell 1969, 132-142.

¹⁰ Harding, Cadogan & Howell 1969, 137, pl. 33c.

¹¹ Harding, Cadogan & Howell 1969, 139.

In the summer of 2009, using shore-based Total Stations and Sector Scan Sonar technology, alongside sampling of artefactual material across the site, the Greek-British team succeeded in digitally recording the 300 x 100 meters of the buildings known from the 1968 expedition. More importantly, archaeologists discovered and surveyed over 9000 m² of newly exposed building complexes, including a large trapezoidal building (34 m x 12-15 m) and a new street lined with buildings, to the north of Area A (Figure 1). Four new cist graves were discovered¹² as well as a recently exposed pithos burial.¹³ This pithos burial complements the increasing evidence for pithos burials from elsewhere in Laconia, namely at Daimonia-Kastelli,¹⁴ Ayios Stephanos,¹⁵ Kotronas,¹⁶ Amyklai,¹⁷ Pellana,¹⁸ and, perhaps, at Gerantonia and Sklavouna at Ayios Georgios Voion.¹⁹ These burials have been dated to Middle Helladic (MH) times.²⁰ On the other hand, EH II adult pithos burials in intramural spaces have been uncovered elsewhere in the Peloponnese, namely at Berbati in the Argolid and at Strephi in Elis.²¹ In the light of forthcoming excavation at Pavlopetri, planned for 2011, it is best to leave the issue of the date of the pithos burial open.

The ceramics recovered across the settlement in 2009 confirmed the Bronze Age occupation of the site, as proposed in 1969. In addition, new ceramic evidence came to light indicating that the site was occupied for the first time in the Final Neolithic (FN) period and not in EH II as had been suggested in 1968.²² A few pottery sherds dating to the Protogeometric, Classical, Hellenistic, Roman and Byzantine periods have broadened the span of later occupation at the settlement, or in sections thereof.²³

Through the assessment of the archaeological data available from the 1968 and 2009 survey seasons, although still at a preliminary stage, this paper will discuss the evidence for the EH occupation of the now submerged town at Pavlopetri, reconstruct the local community's contacts with its Laconian neighbours and

¹² The discovery of a cist grave was reported in 1999 during routine checks in the area by members of the Greek Archaeological Service; see Spondylis 1999, 1024 and fig. 14. As a matter of fact, the cist grave reported by Spondylis appears to be cist grave 37 in Area J already recorded and published in Harding, Cadogan & Howell 1969, 125 fig. 8.

¹³ Henderson et al. 2011, 214.

¹⁴ Wace & Hasluck 1907-1908, 166.

¹⁵ Taylour 1972, 226, 277, 278; Taylour & Janko 2008, 142.

¹⁶ Waterhouse & Hope Simpson 1961, 119.

¹⁷ Waterhouse & Hope Simpson 1960, 75-76.

¹⁸ Spyropoulos 2002, unnumbered fig. on 26.

¹⁹ Gallou 2008, 295.

²⁰ Holgado & Hoys 1988, 23 (Pavlopetri); Cavanagh & Mee 1998, 26; Janko 2008, 567.

²¹ Cavanagh & Mee 1998, 15; Cultraro 2007, 83.

²² Harding, Cadogan & Howell 1969, 133, 139.

²³ Henderson et al. 2011, 215.

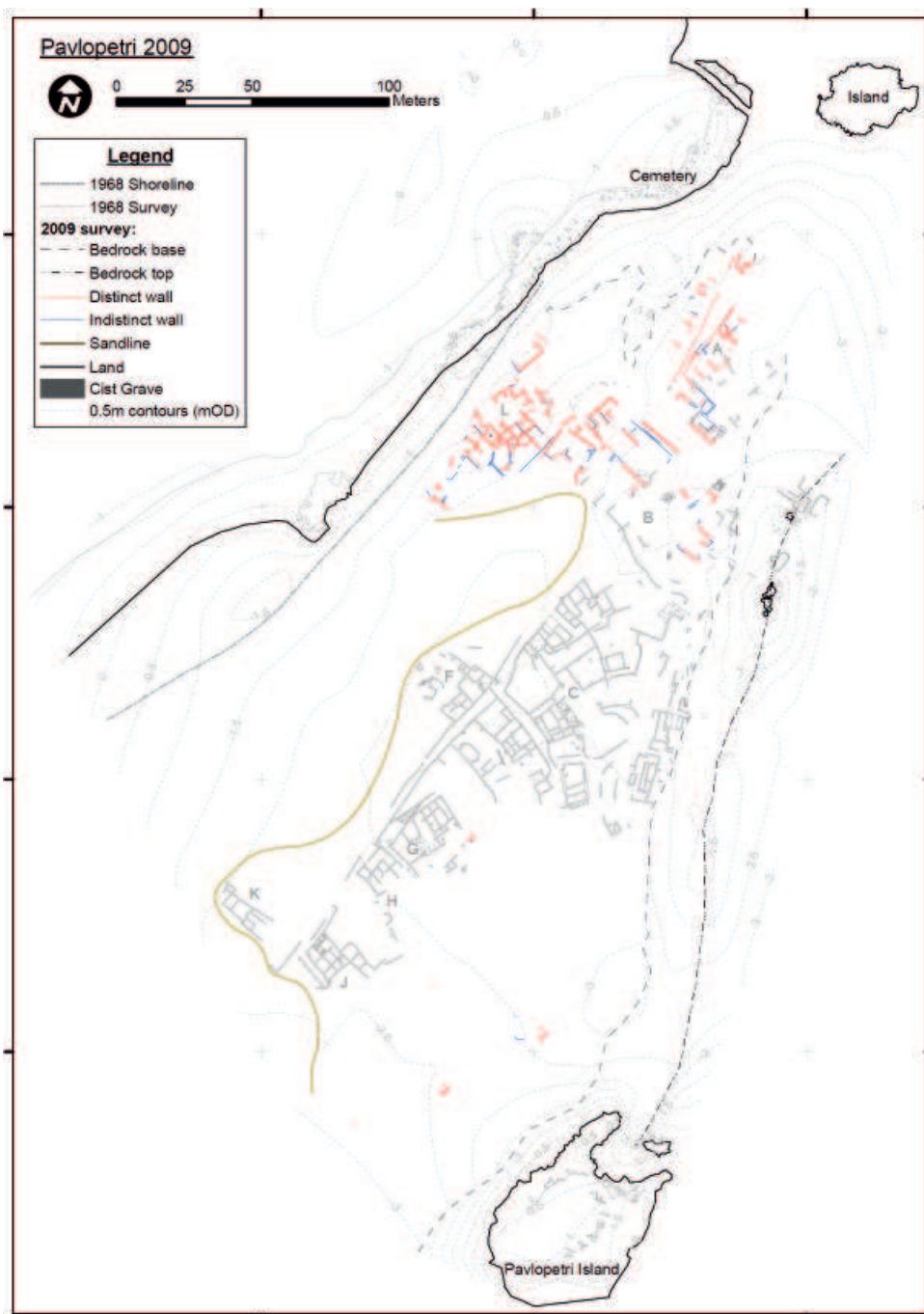


Figure 1. Plan of the submerged prehistoric town at Pavlopetri (as in 2009)

beyond, and place the harbour town within the context of Early Bronze Age seafaring and exchange networks.

The archaeological evidence

Residential Architecture

None of the surveyed buildings can be securely assigned to the Early Bronze Age (EBA) merely on the basis of survey data. Controlled excavation will have to clarify the date of building complexes and of individual rooms, since the town appears to have grown by a process of agglomeration in which rooms were added to pre-existing buildings.²⁴ Several of the walls may belong to the EH period as they seem to have been built in the herring-bone technique. Building IX has been dated tentatively to the EBA and was assigned — albeit with caution — a ritual character (Figure 2). The building is exceptional in its architectural plan (elongated with small apses on both short sides), construction technique (large, unworked, single stones placed on edge, with possibly a wooden or mudbrick superstructure) and its positioning within an enclosed area. Three Early Minoan conical cups were found in between the stones of its walls.²⁵ The building is scattered with EH, Neopalatial and LH III sherds, mainly from storage and drinking vessels. Certainly, excavation will provide further information on the date and character of Building IX.

Graves

More than 60 rock-cut graves cluster around the part of the low ridge that separates the salt lake of Strongyli from the sea, just 30 to 50 m to the north/north-west of the submerged settlement; the majority were cut into the eastern side of the ridge, facing the settlement (Figure 3). Some tombs were partly or completely destroyed during the construction of the channel leading to the salt lake and by later quarrying activities. Several of them are now submerged. The graves on the Pounta shore were originally reported by Leake who visited the site on October 4th, 1806.²⁶ In 1968 the extensive extramural cemetery was hand recorded.²⁷

The graves do not follow any specific pattern of orientation, which seems to have been governed by the slope of the rocky outcrop thus facilitating the cutting

²⁴ Harding, Cadogan & Howell 1969, 139.

²⁵ Harding, Cadogan & Howell 1969, 120-121.

²⁶ Leake 1830, 509. Only one rock-cut grave was visible when Hope Simpson visited the site in 1956; see Waterhouse & Hope Simpson 1961, 146; Harding, Cadogan & Howell 1969, 127.

²⁷ Harding, Cadogan & Howell 1969, 127-132.



Figure 2. View of Building IX



Figure 3. View of the prehistoric rock-cut grave cemetery on the Pounta shore



Figure 4. View of a rock-cut grave on the Pounta shore

of the tombs. The burial chambers are usually circular and only a few are kidney-shaped (Figure 4). The diameter of the circular tombs ranges from 1.20 to 1.70 m and their height would not have exceeded a meter. All graves were approached by a dromos and an entrance. The dromoi are short, about 1 m long and 0.50 m wide; they are rectangular or wedge-shaped, often with rounded corners, and are either flat or descend steeply to the floor of the grave. The steepness of the dromos was occasionally ameliorated by cutting one or two steps (c. 0.20 m high each) at the beginning. The entrances are shallow (0.07 m) but wide (0.41 m). Their height varies from 0.20 to 0.40 m. No slabs or walls blocking the entrance have survived in situ. Most of the roofs have collapsed long since. Where the roof has survived, this is either flat or roughly domed. It appears, however, that some of the graves, especially those with exceptionally low entrances, would have been hollowed out and entered from above, using a capstone to seal the grave after the burial. In such cases, the entrance would have held a symbolic character. Some of

the graves, e.g. Tombs 32, 42, 44 and 53, are exceptionally small and may have been used either for child/infant burials or as ossuaries.²⁸

None of the rock-cut graves were excavated in 1968 and later excavations by A. Delivorrias, mentioned by Harding, Cadogan and Howell,²⁹ remain unpublished. Rescue excavation in 2004 has led to the suggestion that one of the graves had been used as an ossuary at some point; some EH sherds were also reported from inside.³⁰ The graves have been provisionally dated to the EBA, primarily on the basis of their architectural form and their similarities with the extensive EH II extramural rock-cut grave cemetery at the coastal site of Manika in Euboea (with evidence for re-use or continued use in EH III).³¹ This suggestion is further backed up by the increasing numbers of EBA organised rock-cut cemeteries and individual graves that date from the FN to EBA III and are widely dispersed in the Peloponnese, central Greece, the Aegean islands and Crete. In addition to the cemetery at Manika, examples have been uncovered at the Metroon in the Agora³² and the Olympieion³³ in Athens, at Nea Makri in eastern Attica,³⁴ at ancient Elida Kalyvia in Elis,³⁵ at Ancient Corinth³⁶ and Zygouries Ambelakia³⁷ in the Corinthia, at Kalamaki Elaiochoriou³⁸ in Achaea, at Asine³⁹ in the Argolid, at Lithares,⁴⁰ Likeri⁴¹ and Paralimni⁴² in Boeotia, at Phylakopi,⁴³ Aspro Chorio⁴⁴ and Cape Spathi Phournakia⁴⁵ on Melos, at Emporio⁴⁶ and Epano Kouphonisi⁴⁷ on Chios and at Ayia Photia Patima⁴⁸ on Crete.

The cemetery at Pavlopetri is actually the first EH organised extramural cemetery of rock-cut graves of this type reported so far from Laconia; a similar

²⁸ Cf. Cavanagh & Mee 1998, 18-20; Cultraro 2000, 482; Cultraro 2007, 85.

²⁹ Harding, Cadogan & Howell 1969, 130 n. 13.

³⁰ See Zavvou in this volume.

³¹ Harding, Cadogan & Howell 1969, 132. For the EBA rock-cut graves at Manika, see Papavasileiou 1910, 2-20; Sampson 1985, 158-214; Sampson 1988, 21-44; Sapouna-Sakellarakis 1987.

³² FN; see Immerwahr 1982.

³³ EH II; see Pantelidou 1975, 113-115.

³⁴ EH II (?); see Theochari 1980.

³⁵ EH I; see Rambach 2007.

³⁶ EH II, probably EH II-middle; see Heermance & Lord 1897; Lavezzi 2003, 73.

³⁷ Blegen 1928, 42-55.

³⁸ EH I or EH II-early; see Vasilogamvrou 1996-97; 2000.

³⁹ Frödin & Persson 1938, 338-341.

⁴⁰ EH II; see Spyropoulos 1969.

⁴¹ EH; see Pullen 1985, 135.

⁴² EH; see Pharaklas 1969; Pullen 1985, 136.

⁴³ EC IIIB; see Edgar 1904a; Doumas 1977, 23, 49; Barber 1987, 83; Karantzali 1996, 39-40.

⁴⁴ EC IIIB; see Barber 1987, 83.

⁴⁵ EC IIIB; see Papadopoulou 1965, 513.

⁴⁶ EB I-II; Hood 1981-1982, 150-152.

⁴⁷ EC I/II; see Zapheirou 1970, 429, pl. 371.

⁴⁸ EM I/IIA; see Davaras & Betancourt 2004.



Figure 5. View of chamber tomb 39

but single rock-cut grave was excavated at Epidaurus Limera in 1956,⁴⁹ whereas another one has been excavated at Kam-bos Voion.⁵⁰ Similar graves have been noted at Ayia Marina⁵¹ and Megali Spilia,⁵² in close proximity to Pavlopetri. In terms of their Peloponnesian parallels, the graves at Pavlopetri correspond most closely to those in ancient Elida Kalyvia and to the graves of Type B at Kalamaki Elaiochoriou.⁵³ Given that the Elia and Achaian graves date to EH I and EH I/II respectively, the graves at Pavlopetri may also go back to an early phase of EH.⁵⁴

It is notable that larger chamber tombs of superior construction lay among the small graves at Pavlopetri. An example is Tomb 39, which features

a kidney-shaped burial chamber (5.22 x 2.95 m) approached via a relatively long (2.12 m), narrow (0.94-1.00 m), stepped dromos and a carefully cut entrance (Figure 5). The steps are 0.40 m and 0.30 m wide, and 0.19 m and 0.15-0.20 m high respectively.⁵⁵ During construction the burial chamber cut through the chambers of smaller Tombs 38 and 41, thereby merging into one relatively large chamber with a diameter of 5.22 m. Despite the fact that the Mycenaean traits of this tomb had been pointed out, Harding, Cadogan and Howell rejected a Late Bronze Age (LBA) date because it does not resemble the submerged chamber tombs with rectangular chamber to the south-east of the town.⁵⁶ However, its careful construction, stepped dromos, the dimensions of individual architectural elements and striking similarities with the Mycenaean chamber tombs at Epidaurus Limera and in the Vatika region, i.e. at Ayios Georgios, Kam-bos, Papoulianika and Neapolis,⁵⁷ may allow a provisional dating to the LBA. At least another four

⁴⁹ Gallou forthcoming.

⁵⁰ Vasilogamvrou in her lecture at the Round Table Conference.

⁵¹ Gallou 2008, 295 n. 3.

⁵² Zavvou in this volume.

⁵³ Vasilogamvrou 1996-97.

⁵⁴ Also Cavanagh in this volume.

⁵⁵ Harding, Cadogan & Howell 1969, 130.

⁵⁶ Harding, Cadogan & Howell 1969, 130-132.

⁵⁷ Gallou 2008, 296-297 with relevant references to individual tombs; 2009; forthcoming.

similar chamber tombs, either submerged or covered by sand, are dispersed among the smaller rock-cut graves. If Tomb 39 and these other four prove to be LH and the smaller ones EH,⁵⁸ it will be tempting to argue that two non-contemporary ancestral burial grounds were integrated into one in Mycenaean times. A similar pattern has been attested at Kalamaki Elaiochoriou in Achaea⁵⁹ and, probably, at Prosymna (Tomb Group VI) in the Argolid⁶⁰ and Epidauros Limera in Laconia.⁶¹ The hypothesis that the unfurnished tombs 107 and 111 at Tanagra in Boeotia and the group of tombs described as ‘οἰωνεὶ θαλαμοειδεῖς’ at Perati in Attica might in fact have been EH in date,⁶² requires further investigation.

In practical terms, the availability of a rocky outcrop already used during the EBA for the cutting of small rock-cut graves, would have invited later, Mycenaean inhabitants also to construct their graves there. Moreover, it is interesting to reflect on the ideologies and strategies behind the possible re-use of a burial ground of the past in LBA times and to explore the question in which way the presence of the earlier graves might have sanctioned the use of this particular space at Pavlopetri as a LBA cemetery.⁶³

Early Bronze Age ceramics and small finds

EBA pottery was collected during the survey seasons in 1968 and 2009.⁶⁴ Although not stratified, typological and comparative analyses provide valuable insights into the EH occupation of the submerged town and its connections with other Laco-nian and Peloponnesian centres and the Aegean.

The eroded bank on the north side of the Pavlopetri islet provides, according to the 1969 report, a representative idea of the stratigraphy of the settlement.⁶⁵ At least three levels were distinguished of which the lowest belonged to the EBA, as suggested by the presence of ‘red-brown sherds, of rather sandy and very mica-ceous clay with quartz inclusions’.⁶⁶ EBA pottery, obsidian and lithics were concentrated mainly in Areas A, B and C, and in area E in connection with Building IX, as well as on the Pavlopetri islet itself. The preliminary analysis of the pottery sampled in these areas in 2009 (a total of 442 items) shows a high predominance of EBA, followed by a large percentage of LBA material (Figure 6). The standard

⁵⁸ Harding, Cadogan & Howell 1969, 130-132.

⁵⁹ Vasilogamvrou 1996-97; 2000.

⁶⁰ Blegen 1937, 46-48.

⁶¹ Gallou forthcoming.

⁶² Vasilogamvrou 2000, 51.

⁶³ Gallou 2008, 299; forthcoming.

⁶⁴ Harding, Cadogan & Howell 1969, 132-134; Henderson et al. 2011, 214-215.

⁶⁵ Harding, Cadogan & Howell 1969, 132, fig. 12.

⁶⁶ Harding, Cadogan & Howell 1969, 132.



Figure 6. Distribution map of Early Bronze Age pottery collected in 2009



Figure 7. Early Helladic I jar handle PAV2009/147.2 of ribbed rectangular section with incised herring-bone decoration

pottery forms of the EH mainland style are represented, with EH II predominating. Few examples of EH I and EH III pottery were sampled in 2009.

Unfortunately, the surfaces of the collected EH sherds are usually worn, which sometimes makes it difficult to reconstruct accurately the original surface treatment or the use of painted decoration. Due to the ongoing desalination and conservation of the archaeological material, the fabric has not been properly analysed yet; preliminary identification has been based on macroscopic observation while the sherds were still wet. The clay is of brown, reddish brown, orange brown, grey and buff colour; the core is often grey. In the finer wares, the fabric is usually micaceous and slightly sandy; coarser fabrics are characterised by high percentages of mica, schist, quartz, reddish and brownish chert, mudstone and limestone. In a few examples the exterior surface was treated, giving a mottled effect, often combining grey and another colour. Yellow Mottled ware is also attested. Traces of burnishing, smoothing, the use of a slip (black/brown and reddish/brown) and *Urfirnis* paint (black and brown, only in the material from 1968) have been identified. As is to be expected, the archaeological material is similar to the EH material recovered during the extensive survey carried out by Waterhouse and Hope Simpson in the Vatika region.⁶⁷

No EH I sherds were reported in 1969. Among the 2009 material, a few sherds with burnishing marks and reddish/brown slip may belong to EH I. Interesting is a fragmentary handle (PAV2009/147.2) of ribbed rectangular section with incised herring-bone decoration from a jug (probably imported), that could be dated to EB I (Figure 7) with close parallels from Emporio V⁶⁸ and Troy I Middle.⁶⁹ EB I pottery (α 58) from the north-east Aegean has also been excavated on Kythera.⁷⁰ In 2009 a coarse-ware base with mat impression (PAV2009/59.3) was found and could be dated to EH I/II. Laconian parallels are attested at Kouphovouno⁷¹ and the Katsoulakos plot at Anthochori.⁷² A similar base has also been reported from Site 8 (Platia Rachi) of the Kythera Survey.⁷³

⁶⁷ Waterhouse & Hope Simpson 1961, 145-148.

⁶⁸ Hood 1981-1982, 209, 236, figs 108.12, 116.7.

⁶⁹ Blegen et al. 1950, fig. 247.35.

⁷⁰ Coldstream 1972a, 80-81, pl. 17. α 58; 1972b, 274.

⁷¹ Mee 2009, 48.

⁷² Zavvou 2009, 36, fig. 4.24.

⁷³ Broodbank 1999, 205, fig. 12.



Figure 8. Fragment of Early Helladic II sauceboat PAV2009/17.2 with divided handle and flaring terminals



Figure 9. Sherd of Early Helladic II small bowl PAV2009/183 with projecting lug

EH II pottery predominates. Finer wares represent the standard mainland shapes and include sauceboats, bowls, cups, conical saucers and basins. The shapes are closely paralleled by Laconian, Kytheran and north-eastern Peloponnesian examples, e.g. sauceboat PAV2009/17.2 (Figure 8) with divided handle and flaring terminals corresponds to Kythera deposit β 94⁷⁴ and to Lerna P715;⁷⁵ a sauceboat with divided handle to Ayios Stephanos P93⁷⁶ and to Lerna P285.⁷⁷ PAV2009/183 (Figure 9) from a small bowl with a projecting lug is similar to Kythera deposit α 69.⁷⁸ The pedestalled feet from sauceboats and saucers from Pavlopetri are relatively common in Laconia, for instance at Elaphonisos Site B,⁷⁹ at Ayios Stephanos (e.g. P63-78, 106, 138-139, 167),⁸⁰ in the area of the Laconia Survey,⁸¹ at the Katsoulakos plot in Anthochori,⁸² at Bozas Asopou⁸³ and on Kythera (e.g. deposit β 74-76, 86-89, 92).⁸⁴ A fragmentary basin, PAV2009/32.2 (Figure 10), is paralleled by P979 of Type 6 at Lerna.⁸⁵ In addition, it is important

⁷⁴ Coldstream 1972a, 83, pl. 17.

⁷⁵ Wiencke 2000, 425, fig. II.40, pl. 12.

⁷⁶ MacGillivray 2008, 165, fig. 4.5.

⁷⁷ Wiencke 2000, 364, fig. II.16, pl. 5.

⁷⁸ Coldstream 1972a, 81, pl. 17.

⁷⁹ Waterhouse & Hope Simpson 1961, 146, n. 207.

⁸⁰ MacGillivray 2008, 175.

⁸¹ Cavanagh & Crouwel 1996, 7.

⁸² Zavvou 2009, 33, figs 4.17, 4.18.

⁸³ Banou 1999, 77, fig. 11.

⁸⁴ Coldstream 1972a, 81-82, fig. 35.

⁸⁵ Wiencke 2000, 468, fig. II.60, pl. 18.



Figure 10. Fragment of Early Helladic II basin
PAV2009/32.2



Figure 11. Fragment of Early Helladic II neckless
pithos PAV2009/96

to note that four conical cups from Building IX⁸⁶ feature strong Early Minoan traits.⁸⁷

Medium coarse and coarse wares include fragments of pithoi of various types, jars of various sizes and types including collar-neck and neckless versions (e.g. PAV2009/96; Figure 11), jugs, a pyxis lid (PAV2009/126; Figure 12), baking pans, portable hearths, stands (e.g. PAV2009/97.4; Figure 13) and plates.

Interesting is the corpus of decorative bands and features, such as the single or multiple bands of rope and thumb-indentated decoration; the single or multiple rows of *Kerbschnitt* along the rim of portable hearths and plates, as on PAV2009/92.1, PAV2009/92.2 and PAV2009/73.2 (the latter also combined with a row of impressed circles); one or multiple bands of overlapping disks; bands of short vertical or oblique incised strokes on or below the rim; incised patterns of herringbone, zigzag or of parallel chevrons on the rim of pithoi and portable hearths, and on handles; incised net pattern; bands of plain cordons; and combinations of different patterns.

Deeply slashed handles from EH II jugs (or jars), like PAV2009/73.1 (Figure 14) and another one from the 1968 survey,⁸⁸ are also attested at other Laconian sites, e.g. Kouphovouno,⁸⁹ in the area of the Laconia Survey,⁹⁰ and on Kythera.⁹¹ At Lerna this type of handle appears in contexts from late phase A through late phase

⁸⁶ Harding, Cadogan & Howell 1969, 133-134, fig. 14, pl. 32.

⁸⁷ Mee 2009, 51. Contra Harding, Cadogan & Howell (1969, 133), who associated the cups with the Keros-Syros culture; see also Rutter & Zerner (1984, 76 n. 5), who remark that 'there is no certainly identifiable Early Minoan pottery from the partially excavated sites of Pavlopetri (...)'.
⁸⁸ Harding, Cadogan & Howell 1969, 133.

⁸⁹ Mee 2009, 47, fig. 5.8.6.

⁹⁰ Cavanagh & Crouwel 1996, 13, fig. 11.6.5.

⁹¹ Coldstream 1972a, 80, pl. 17.55.



Figure 12. Pyxis lid PAV2009/126 of Early Helladic II date



Figure 13. Fragment of Early Helladic II stand PAV2009/94.7

B.⁹² It is also common in Early Cycladic contexts, e.g. at Phylakopi,⁹³ Akrotiri and on other Cycladic islands including Keos (Ayia Irini) and Keros (Dhaskalio Kavos).⁹⁴ As on Kythera, the occurrence of vessels with slashed handles on Astypalaia, Samos and Crete has been considered evidence for Cycladic imports.⁹⁵

EH III may be represented at Pavlopetri, although its secure identification is impeded by the quality of the sherds' surface, i.e. only very scarce traces of black paint (or slip) have survived on the surface of most sherds. The most instructive examples include PAV2009/95.1a-c and PAV2009/84 (Figure 15), which are decorated with multiple, densely packed plastic bands with thin oblique slashes; the orientation of slashes alternates from band to band. The decoration corresponds to P42I, P518, P610 and P611 from Lerna IV.⁹⁶

EH small finds include a small biconical, bored weight of limestone,⁹⁷ terra-cotta conical whorls, the base of a small handmade clay pot that was pierced and probably used as a loomweight (PAV2009/76.3), and a fragmentary clay zoomorphic figurine.⁹⁸ The dating of the limestone weight and the pierced base to the EBA is, however, uncertain, given that similar objects are broadly attested from the Neolithic to at least the LBA. On the other hand, PAV2009/161.3, has EH II

⁹² E.g. P263 and P304; see Wiencke 2000, 571.

⁹³ Edgar 1904b, 86.

⁹⁴ Sotirakopoulou 1999, 420, figs 302-308; Wilson 1999, 38; Broodbank 2007, 138, 211, fig. 6.15.202.

⁹⁵ Sotirakopoulou 1999, 211; Broodbank 2007, 138; Broodbank & Kyriatzi 2007, 251.

⁹⁶ Rutter 1995, 637, pls 8, 10, 11.

⁹⁷ Harding, Cadogan & Howell 1969, 138, pl. 33l.

⁹⁸ Harding, Cadogan & Howell 1969, 138, pl. 33h.



Figure 14. Deeply slashed handle PAV2009/73.1 of Early Helladic II jar



Figure 15. Sherds of Early Helladic III jar PAV2009/95.1a-c

parallels from Laconia, e.g. Ayios Stephanos (AS5011)⁹⁹ and Anthochori,¹⁰⁰ and from elsewhere.¹⁰¹ The terracotta bovid figurine that was recovered from Building XIV in Area J, was originally dated — with caution — to LH times.¹⁰² However, its cylindrical elongated body with short legs and head with pointed nose, which have parallels in the recently published figurines from Ayios Stephanos,¹⁰³ place it securely in EH II.

The ongoing study of the EBA ceramics from the 1968 and 2009 survey seasons at Pavlopetri suggests that the EBA is certainly represented by EH II ceramics, followed by only small percentages of EH I and EH III pottery. The low percentages of EH I and EH III material may be misleading given the quantity and quality of the sampled material. However, the following preliminary conclusions can be drawn.

Firstly, EH I pottery is not well documented in Laconia with the exception of Ayios Stephanos,¹⁰⁴ Kouphovouno,¹⁰⁵ PalaioPyrgi, Xerokambi Ayios Vasileios and Asteri Karaousi,¹⁰⁶ and a few sites of the Laconia Survey.¹⁰⁷ At these sites EH I is mainly represented by Red Slipped and Burnished Ware. It also seems that an early phase of EH I pottery at Pavlopetri may have been incorporated among the

⁹⁹ Banks, French & Janko 2008, 411, fig. 8.1.

¹⁰⁰ Zavvou 2009, 39.

¹⁰¹ Cf. Cosmopoulos 1991, 87.

¹⁰² Harding, Cadogan & Howell 1969, 138, pl. 33h.

¹⁰³ Banks, French & Janko 2008, 414, fig. 8.2.

¹⁰⁴ MacGillivray 2008, 159-161.

¹⁰⁵ Renard 1989, pl. 37.1-2; Cavanagh, Mee & Renard 2004, 91; Cavanagh in this volume.

¹⁰⁶ Banou in this volume.

¹⁰⁷ Cavanagh & Crowel 1996, 9-15.

FN/EH material retrieved and a late phase into the late EH I-late/EH II-early phase.

Secondly, EH II pottery abounds and is represented by a wide corpus of shapes, decorative patterns and fabrics. It represents a local style akin to those from other Laconian and north-eastern Peloponnesian centres. It may be important to add that several pieces of fine ware from deposit β at Kythera have been identified as '(probably) imported EH'.¹⁰⁸ Pottery of EH type has also been identified during the recent Kythera Survey;¹⁰⁹ it resembles that from deposit α at Kastri and 'is closely related to the traditions of the Early Helladic south-east Peloponnese'.¹¹⁰ As noted by Broodbank, the major primary EBA coarse fabric from Kythera resembles the material from contemporary sites on Elaphonisos and Pavlopetri.¹¹¹ Comparative studies and fabric analyses may reveal whether the EH pottery on Kythera was imported from Pavlopetri. In addition to the locally developed styles, Aegean traits are also attested in the ceramic repertoire: jar fragments with incised net pattern, slashed handles and hearth rims with *Kerbschnitt* pattern echo Cycladic examples. The conical cups from Building IX look distinctively Early Minoan and a link with Crete and/or its Minoan colony at Kastri on Kythera seems highly likely.

Lastly, only a few examples of EH III pottery were collected in 2009, with striking affinities to Lerna IV. It is not possible, though, on present evidence, to determine whether these were locally produced or imported from the Argolic centre. As with EH I, the scarcity of material dating to the last phase of EH may be misleading, due to the quantity and state of preservation of the sampled material. On the whole, EH III is almost absent in Laconia,¹¹² with the possible exception of a few sherds from Ayios Stephanos of EH III late date, which are similar to Lerna IV, but may also be assigned to the transitional EH III/MH I phase¹¹³; a Light-on-Dark patterned sherd from Skoura Ayios Georgios, a Dark-on-Light patterned sherd from Skoura Vouno Panagias, and sherds from Palaiopyrgi, may be recognisable as EH III, with parallels from other sites in the Eurotas valley and Geraki.¹¹⁴ The fragments of a wheelmade vessel with black burnished paint from the Armakas Cave near Zarax, may belong to the EH III/MH I period.¹¹⁵

¹⁰⁸ Coldstream 1972a, 83.

¹⁰⁹ Broodbank 1999, 201, 203, 205, 206, 208-209, figs 10, 12.

¹¹⁰ Broodbank 1999, 211.

¹¹¹ Broodbank 1999, 211; Broodbank & Kiriati 2007, 251; cf. Waterhouse & Hope Simpson 1961, 141-148; Harding, Cadogan & Howell 1969, 133-134.

¹¹² Rutter 1988, 74; Cavanagh & Crouwel 1996, 16; Zerner 2008, 212; Cavanagh in this volume.

¹¹³ Zerner 2008, 212; Janko 2008, 565.

¹¹⁴ Banou 1999, 79; Banou in this volume.

¹¹⁵ Efstathiou-Manolakou 2009, 12, fig. 2.11.



Figure 16. Blades of obsidian and silex from the submerged prehistoric town. Photo: Courtesy of the British School at Athens (Pavlopetri Project 1968)

Zerner has recently suggested that the absence of EH III ceramics at Ayios Stephanos and in the rest of Laconia may indicate that ‘the end of EH II did not correspond chronologically to the end of this period in the Argolid, so that EH II styles continued to be produced at the same time as EH III styles were being produced at Lerna’.¹¹⁶ It may also be that EH III pottery in Laconia was so similar to early MH pottery that it has not been possible yet to recognise it in the archaeological record. According to Zerner’s analysis,

the period following EH II in Laconia coincides with the transitional EH/MH or an early phase of MH in the Argolid.¹¹⁷ The issue will be addressed in the forthcoming excavations at Pavlopetri.

Obsidian and silex

The sample of chipped stone tools of materials other than obsidian is limited on the Malea peninsula and restricted to a few sites only. In the absence of petrographic analysis, we repeat what Carter and Ydo wrote about the silex from the Laconia Survey: ‘Covered by the generic term of ‘silex’ are a variety of siliceous rocks of diverse colours and hues. Whether this is due to different origins is impossible to say without petrographic analysis.’¹¹⁸ The lack of more examples of silex from the Malea peninsula may be the result of the lack of excavated or even intensively surveyed sites, rather than actual absence of the type from the repertoire of tools. The colour of the rocks used for the production of tools ranges from reddish-brown to creamy white.¹¹⁹ One small blade of honey chert was collected on the Pavlopetri islet.¹²⁰

A photo of another blade of black colour was also published in 1969; it is probably included in the group of the c. 20 obsidian blades reported (Figure 16).¹²¹ In the course of her research on the prehistory of the area and her study of the

¹¹⁶ Zerner 2008, 212.

¹¹⁷ Zerner 2008, 212–213.

¹¹⁸ Carter & Ydo 1996, 155.

¹¹⁹ Gallou & Faber forthcoming.

¹²⁰ Harding, Cadogan & Howell 1969, 138, pl. 32f.

¹²¹ Harding, Cadogan & Howell 1969, fig. 32f (second from left).

archaeological material from the British surveys on the peninsula, C. Gallou identified, in 2006 and 2007, similar blades of the same type of metamorphic rock on the ancient acropolis of Zarax, to the south side of the Palaia Monemvasia promontory, on the ancient acropolis of Epidauros Limera, at Ayios Phokas, at Ayios Georgios on Cape Kamili (along with evidence for the exploitation of copper), Ayios Nikolaos Kadia and Agiatsa, Velanidia Ayios Georgios, Viglafia Latomeio, Viglafia Aspoudia and Ayios Georgios Voion. A. Kyrou has kindly informed her that he has identified similar blades at Arianna, Leonidio in Kynouria and on the island of Velopoula. Similar blades have also been identified on Kythera.¹²² The medium-sized blades are made of a black-coloured, very fine-grained, crystalline rock, which flakes in a manner similar to obsidian. Were it not for the very fine-grained crystalline microstructure, this rock could be mistaken for a form of obsidian. The edges of the blades are translucent. These tools are consistently found with EH II pottery and tools of Melian obsidian.

Deposits of this metamorphic rock have been identified so far on Mt. Krithina, i.e. at Mavres Petres ('Black Stones'), Chounares, in the vicinity of the church of Metamorphosi at Velanidia, at Ayios Nikolaos, at Cape Kamili and in the area between Epidauros Limera and Arianna.¹²³ Analysis of geological samples using electron microprobe is currently being undertaken at the Microanalysis Research Facility at the University of Nottingham, in collaboration with Dr Edward Faber.¹²⁴

The first indication of imported material at EBA Pavlopetri is provided by the occurrence of more than 20 blades and chips, and one core of obsidian from Melos.¹²⁵ The obsidian from the Maleatic sites is black, and in a couple of cases grey-banded, and translucent. The occurrence of this kind of obsidian is frequently attested in the Vatika region.¹²⁶ The Malea peninsula is ideally situated opposite Melos; at times when travel was practiced without sail, the unworked nodules would have been transported from the Melian source to the few safe land-

¹²² Pers. comm. Aris Tsaravopoulos.

¹²³ The identification of the deposits was carried out under the guidance of Dr Y. Maniatis (N.C.S.R. Demokritos), Dr D. Sakellariou (Hellenic Centre for Marine Research), Dr D. Vayias and Dr K. Angelopoulos (both of the Institute of Geology and Mineral Exploitation), and Mr A. Kyrou (Museum of Spetses).

¹²⁴ Gallou & Faber forthcoming.

¹²⁵ Harding, Cadogan & Howell 1969, 138.

¹²⁶ In addition to Pavlopetri, cores, blades, and chips of obsidian have been reported from Neapolis (Psafaki), Palaiokastros, Stena (Ayioi Anargyroi), Ayios Georgios (Tsegianika Kyla), from Viglafia (Ayios Andreas, Latomeion and Aspoudia), the Rais Cave, Las Kastelli and Ayios Nikolaos (Kadia and Agiatsa), Kleftavlake, Ayia Marina, Velanidia (Ayios Georgios) and Elaphonisos; see Waterhouse & Hope Simpson 1961, 141-148; Zavvou 2002, 212, 216; Gallou 2008, 294; Gallou & Faber forthcoming. For a general discussion of obsidian in Laconia, see Carter & Ydo 1996, 166-169; on the Malea peninsula, see Gallou & Faber forthcoming.

ings available on the Malea peninsula. No doubt, the most accessible and most safely positioned of these landings could have served as centres for procurement, receipt and exchange of obsidian.

Closing remarks

Due to the geological formation of the Malea peninsula and particularly the mountainous Parnon range, winds and currents off Cape Malea can be treacherous. Unpredictable and often volatile conditions made the circumnavigation of the Cape a treacherous enterprise in antiquity (as indeed it remains today). Despite the rough topography and the remoteness of the inhospitable Malean coast, there is evidence for more than 65 EH II sites, the vast majority of which are in coastal locations.

From a sailing perspective Cape Maleas is one of the most challenging headlands in the eastern Mediterranean, yet it remains a highly strategic sea passage connecting the Aegean with the Ionian islands and central Mediterranean. Its fundamental danger lies in the fact that, when travelling from east to west, one must sail along 20 nautical miles of unsheltered, precipitous coastline from the anchorage at Epidaurus Limera to the tip of the Cape. This distance could take between six and eight hours to sail depending on the time of year. Moving in the opposite direction, from west to east, the closest sheltered harbour at Pavlopetri sits c. 12 nautical miles from the southernmost part of the peninsula and it has been suggested that this distance would take between 4.5 and 6.5 hours to sail (in aggregate).¹²⁷ Assuming that the sail was not introduced before the end of the 3rd millennium BC, it is likely that in the EBA the trip would have been considerably longer. Of course, due to tectonic and eustatic changes, the coastline of the peninsula has altered to a certain extent since antiquity, but the dangers would have persisted, as suggested by ancient nautical narratives and other literary sources. However, because of their light weight and small size, prehistoric vessels could have taken advantage of water movement formed by the steady flow of currents, to achieve effective propulsion.¹²⁸

According to Papageorgiou's reconstruction of prehistoric maritime routes in the Aegean, Cape Malea lies at the confluence of three sea-lanes, connecting the south-east extremity of the mainland with Crete and the Aegean.¹²⁹ Moreover, the sea passage between Elaphonisos and Kythera is one of the safest sailing routes

¹²⁷ Conlin 1999, 200.

¹²⁸ Papageorgiou 2008, 202.

¹²⁹ Papageorgiou 2008, 214, fig. 4. It should be born in mind that this does not take into account the fact that Elaphonisos was a peninsula connected to the mainland during the Bronze Age.

from the Aegean and the eastern Mediterranean to the Ionian islands and the central Mediterranean.¹³⁰ The prehistoric town at Pavlopetri, which lay to the east of a narrow isthmus of Elaphonisos, facing Kythera, was the safest harbour on the western Maleatic coast. The town's location between two ridges protected it from the prevailing *meltemia* (Etesian winds). The sandy beaches on both sides of the isthmus provided a well-protected harbour for beaching the low-draught EBA vessels, after they had successfully managed to circumnavigate the notorious Cape, or on arrival from Crete via Kythera. Small EH II sites, most probably farmsteads and hamlets, were established on small plateaus on the northern part of Elaphonisos, at Ayios Georgios Voion Tsegianika/Kyla and at Viglaphia Latomeion and Asproudia, in close proximity to the town.¹³¹ They were satellite sites with great visibility towards the sea and the plain, thus also serving as outlook posts. Nevertheless, control over the passage would have rendered Pavlopetri one of the most important and thriving gateway communities in the southern Peloponnese in EBA times. The vital importance of this sea passage is further reflected by the establishment of a fairly dense pattern of small EH II sites on small plateaus on the northern side of Kythera and along the western Maleatic coast.

Cycladic, Minoan and north-eastern Aegean traits (and possible imports) in the EH ceramic repertoire from Pavlopetri speak for the involvement of the local community into the trans-Aegean exchange networks of the EBA. Harding, Cadogan and Howell even suggested that 'the position beside the sea, the possible connections between the cemetery on the shore and Manika, and the links with Syros culture pottery suggest that the first settlers arrived by sea, perhaps from the Cyclades.'¹³² Although there is no evidence to support this hypothesis, the maritime character of the town and its involvement in long-distance trade have been confirmed by the recent investigations.

Pavlopetri participated in the regional exchange network involving Kythera and southern Laconia. Kythera, the Vatika bay and Elaphonisos create an enclosed area in which interaction and exchange would have taken place frequently. This is confirmed by the similarities shared in the ceramic repertoire from Pavlopetri and the wider Vatika region, including other EH II sites along the western Maleatic coast, in particular Bozas Asopou, Plytra Goulas and Daimonia Kastelli, and Ayios Stephanos further north, as well as with Kythera, especially Kastraki, Kastri and the sites on the northern part of the island.

The ongoing research at the submerged prehistoric town at Pavlopetri indicates that it was a key harbour town with an important gateway community that was

¹³⁰ Cf. Maran 1998, 102-106, 371-410; Blakolmer 2005; Nicolis 2005.

¹³¹ Cf. Waterhouse & Hope Simpson 1961, 146-148; Gallou 2008, 294.

¹³² Harding, Cadogan & Howell 1969, 142.

actively involved in the exchange network formed by Crete, the wider Aegean area and mainland Greece in EBA times. The forthcoming excavations at Pavlopetri hope to clarify further issues of EBA chronology and maritime connections and will continue to reveal more about the EH period in Laconia.

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