Euboean connections with Attica and Kea: 
A view from Final Neolithic and late Early Bronze Age II pottery

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Περίληψη

Το άρθρο διερευνά τις σχέσεις ανάμεσα στην Κεντρική και τη Νότια Εύβοια, την Ανατολική Αττική και τη Βόρεια Κέα σε δύο χρονολογικές περιόδους: την Τελική Νεολιθική (περίπου 4100-3100 π.Χ.) και την ύστερη Πρωτοελλαδική II (περίπου 2450/2350-2200/2150 π.Χ.). Το πρώτο μέρος αναφέρεται στις στενές ομοιότητες στην κεραμική της Τελικής Νεολιθικής από ανασκαφές στην Κεντρική και τη Νότια Εύβοια (Θαρρούνια και Πλακαρή), στην Ανατολική Αττική (σπήλαιο του Κίτσου, Κόντρα Γκλιάτε και Θορικός) και στη Βόρεια Κέα (Κεφάλα και Αγία Ειρήνη). Οι κεραμείς αυτών των κοινοτήτων χρησιμοποιούσαν παρόμοιες συνταγές για τους πηλούς τους με προσμείξεις από τοπικά υλικά, και παρήγαγαν τα ίδια σχήματα. Οι κοινές κεραμικές τεχνολογίες μπορούν να ερμηνευτούν ως ενδείξεις για την ύπαρξη ναυτιλίας και επαφών ανάμεσα σε Εύβοια, Ανατολική Αττική και Βόρεια Κέα. Το δεύτερο μέρος του άρθρου αναφέρεται στην κεραμική της ύστερης Πρωτοελλαδικής II. Σε αυτήν την περίοδο συνυπάρχουν τα σχήματα της λεγόμενης «ομάδας Λευκαντί Ι - Καστρί» με κεραμική της Πρωτοελλαδικής ΙΙ. Μπορούμε να αναγνωρίσουμε μια διαφορετική δυναμική σε σχέση με την Τελική Νεολιθική. Τα νέα έθιμα πόσης από τη δυτική Αττική και νέες τεχνολογίες, όπως ο κεραμικός τροχός, που κατά πάσα πιθανότητα μεταδίδονται μέσω θαλάσσιων οδών, διεισδύουν στην Ευβοϊκή κεραμική παραγωγή. Η εμπλοκή των νέων επαφών από τη Μεσοανατολία δείχνει τη συμμετοχή των κοινοτήτων της Καρυστίας σε ένα δίκτυο επαφών και ανταλλαγών μέσω θαλάσσιων οδών με τους γείτονές τους. Μία χιλιετία αργότερα, στο τέλος της Πρωτοελλαδικής ΙΙ, η Εύβοια έχει γίνει ένας σημαντικός κόμβος σε εμπορικά δίκτυα διαπεριοχής μεγάλης εμβέλειας.

Introduction

Archaeological work undertaken in Euboea has demonstrated that the northern and central parts of the island were settled by the Early Neolithic (c.6540-5950). However, the southern part of the island, the Karystia, was settled much later, in the Late Neolithic (c.5300-4100 BC). The Karystian Kamos, an area with great potential for agricultural use that could have attracted Neolithic farmers, was recently surveyed by Tankosić and Chidirogou, but no evidence earlier than the Late Neolithic

1. Sampson 1981, 50-79. It should be noted that Sampson's Early Neolithic I is contemporaneous with the Thessalian Early Neolithic, whereas his Early Neolithic II phase is contemporaneous with the Thessalian Middle Neolithic (see Alram-Stern 1996, 117-118). For the absolute chronology of the Early Neolithic, see Perlès 2001, 109-110.
was discovered. It therefore seems that the Karystia was in many ways functioning as an island within Euboea, since it was ‘colonized’ together with other marginal landscapes, such as mountainous areas, in the late stages of the Neolithic. This phenomenon may be associated with a shift from spring-fed to rain-fed agriculture and a greater emphasis on a seasonal, pastoral economy.

The next period, the Early Bronze Age (EB) (c.3100–2000 BC) is well attested on Euboea. In contrast to other Aegean regions, where the transition from the Final Neolithic (FN) to EB I is unclear, Sampson’s important survey work has documented a significant increase in the number of sites during his FN II and EB I phases, which most likely reflects settlement dispersal into small farmsteads and hamlets along with a population increase. The EB II (c.2650–2200/2150 BC) seems to be a flourishing period. The evidence from Manika is impressive, and the settlement seems to achieve an enormous size of 50-80 ha, though it is not clear whether it was continuously occupied. The late phase of EB II (c.2450–2200/2150 BC) has been recognized at the site of Lefkandi, where pottery types associated with eating and drinking with strong similarities to types known from western Anatolia have been excavated. These pottery types also occur at Manika.

In this paper the connections between central and southern Euboea, eastern Attica and northern Kea during the FN and the late EB II are investigated using archaeological ceramics as a source of evidence. The study of excavated ceramics from these areas, which are connected through short maritime journeys, can provide important insights into ceramic production, consumption and exchange. The study has two main aims: to identify local and imported ceramic styles and to establish how local pottery-making traditions are affected by broader changes in ceramic technology and/or the reorganization of social and economic networks in the prehistoric Aegean.

The two time periods under consideration, the end of the Neolithic, which is also known as the FN (c.4100-3100 BC), and the late phase of the EB II (c.2450-2200/2150 BC) have been selected because there is sufficient data for inter-site comparisons of ceramic assemblages, which then allow for the reconstruction of patterns of prehistoric interaction. For each period the ceramic styles (fabrics, forms and surface treatments/decorations) excavated from several sites on Euboea, eastern Attica and Kea are discussed (Fig. 1). The ceramic data on stylistic similarities and differences are interpreted in terms of the extent and nature of the relationships among Euboean, eastern Attic and Keian communities. Intercommunity interactions in each period may relate to several socio-economic phenomena, such as inter-village marriages, trade and exchange, piracy and warfare. It should be emphasized that ceramic production, consumption and exchange are only one aspect of prehistoric economic and social relationships, which were most likely complex and formed and transformed through several types of material culture. Still, of all the archaeological materials dated to these periods, pottery is the most abundant and best-preserved type, and it occurs at all excavated sites, thus providing considerable research potential for inter-site and interregional comparisons.

4. See Tankosić, this volume.
6. The Early Bronze Age is subdivided into three periods: EB I (c.3100-2650 BC), EB II (c.2650-2200/2150) and EB III (2200/2150-2000 BC). Absolute dates for the Early Bronze Age used in this paper derive from Manning 1995.
11. The assumption that each ceramic assemblage is the product of a specific community can be criticized methodologically: the ceramic assemblages under examination could have been the product of one or several potters used by one or several residential groups. The term ‘community’ is used here to describe a ‘meso’ scale of analysis between the ‘individual’ and the ‘region’ (on the concept of the ‘meso’ scale, see Knappett 2011, 98-111).
The Final Neolithic

The FN dates roughly to the 4th millennium BC (c.4100-3100 BC). It should be noted that there is some controversy in the literature on naming this period. Renfrew, based on the work of Phelps on ceramic typology and the data from absolute chronology, coined the term 'Final Neolithic' to describe the 4th millennium BC. Sampson has disagreed with the term 'Final' and suggested an alternative chronological scheme. This paper uses Renfrew’s terminology, which is convenient for analysing the dataset of the study.

The pottery from seven FN sites is considered in this paper: Tharrounia in central Euboea; Plakari in the Karystia; the Kitsos Cave; Kontra Gliate and Thorikos in eastern Attica, and Kephala and Ayia Irini on Kea (Fig. 1). These sites have produced significant quantities of FN pottery, and have been published to a level of detail which permits inter-assemblage comparisons.

The data on ceramic fabrics from all case-studies indicates local production of the bulk of the assemblages; some imported pottery has also been identified. At Plakari, Kontra Gliate, Thorikos, Kephala and Ayia Irini, the examination of ceramic fabrics establishes that most of the pottery is produced from the local red-brown clays, which contain rock and mineral inclusions that are common in local geologies, such as schist, limestone and/or marble, quartzite and silver mica. At the Kitsos Cave, as well as the local micaceous silver fabric, the petrographic study of Courtois has identified calcite-tempered and volcanic fabrics, which are most likely imports to the site, but imports which are not from very far away. A volcanic fabric has also been identified at Kontra Gliate, and may be an Aeginetan import. There is no evidence from the literature on Tharrounia for locally produced and imported fabrics.

Further insights into ceramic production during the FN are provided by the study of form repertoires. The same ceramic shapes are produced across Euboea, Attica and the northern Cyclades (Fig. 2).

12. Renfrew 1972, 68.
13. Sampson 2006, 244-247.
21. For the Plakari macroscopic fabrics, see Cullen et al. 2013, 27-28; for Kontra Gliate and Thorikos, see Nazou 2014, 299; for Kephala, see Coleman 1977, 9. A petrographic study of the small FN assemblage on Thorikos square 153c5 and of the Plakari assemblage has been conducted by De Paepe (1982), who identified the presence of metamorphic rocks in the pottery of both sites, but is reluctant to argue for local production owing to the widespread distribution of these rocks in the Attic-Cycladic Massif. Since there are no major differences in local geologies of the Karystia, eastern Attica and Kea, one would need a technological study which combined ceramic petrography and chemical analysis to distinguish possible differences in clay sources, processing and firing.
22. Courtois 1981, 385 and Nazou 2014, 271-275. The calcite-tempered fabric could have been produced somewhere in south-eastern Attica, whereas the volcanic fabric is most likely an import from nearby Plaka (even though a provenance from Aegina cannot be excluded).
24. Kilikoglou and Maniatis (1993, 438-440 and table 1) report that non-calcareous clays were used for the production of FN pattern burnished pottery, but do not provide any further information on local and imported fabrics. Non-calcareous clays were also used at Thorikos and Plakari (De Paepe 1982, 72, 74).
25. Nazou 2014, 299, table 80. The only exception is the Kitsos Cave, where there is an unusually high quantity of imported pottery.
Moreover, there are striking similarities in the execution of most forms and form parts.26 Such close similarities in form repertoires most likely indicate shared technologies among the potters of the Karystia, eastern Attica and Kea. The most likely explanation for this phenomenon is the interaction of these communities through inter-village marriages, since pottery making is a cultural tradition which is usually diffused through learning within a family or an extended family.27

The study of surface treatments and decorations provides similar results,28 strengthening the argument for strong stylistic similarities among the ceramic assemblages. The main decorated ware, the pattern burnished, occurs at Plakari, Kontra Gliate, Thorikos and Kephala in association with local fabrics.29 This suggests local production, but the small variations in the execution of decoration motifs most likely indicate non-standardized production among these communities.

Therefore, the data on FN pottery production in the Karystia, eastern Attica and Kea indicate the existence of shared ceramic technologies. This is most likely associated with active maritime links between these areas. As we have seen, pottery exchange is limited, but there is strong evidence for the transfer of technological knowledge and shared cultural traditions.

The late phase of the Early Bronze Age II (Lefkandi I-Kastri group)

A millennium later, during the late EB II period, different dynamics can be recognized among the communities of Euboea, eastern Attica and Kea. In this period long-range maritime interaction between the southern Aegean and western Anatolia affected ceramic production. At sites of this period, excavations have yielded the standard EB II ceramic repertoire of tableware forms (bowls, jugs and sauceboats) and transport and storage vessels of various shapes and sizes.30 However, excavations at Lefkandi have also yielded a different group of tableware forms that has received considerable research attention. This pottery group was named the ‘Lefkandi I-Kastri group’ after the sites where this pottery was first excavated.

When French first reported the earliest pottery from Lefkandi, he highlighted its uniqueness and importance.31 The most distinctive characteristic was the presence, for the first time in the Aegean, of wheelmade pottery, which co-occurred with handmade pottery. Moreover, the closest form parallels for this pottery were reported from western Anatolia, from sites such as Troy II. These stylistic connections were indicative of cultural interactions of Aegean and western Anatolian communities; however, their precise nature still eludes us.

Earlier approaches have considered this group evidence for invasions and/or migrations.32 Further research has considerably improved our knowledge of this group. Most researchers are now agreed that this pottery dates to the end of EB II, namely around 2450-2200/2150 BC. Moreover, the specific set of tableware shapes of the Lefkandi I-Kastri group (Fig. 3) may indicate the adoption of Anatolian drinking customs, and a proliferating ideology which was in competition with existing structures.33 The shapes of the group seem to be inspired by metal prototypes, as metal vessel shapes may have in-

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26. The most cited examples are the lugs of the so-called ‘elephant head’ type, the pedestalled bases and the rolled rims.
27. For examples of ethnoarchaeological studies that have demonstrated this, see Arnold 1989; Crown 1999; Deal 1998.
30. Manika, especially, has produced a wide repertoire of EB II ceramic shapes; see Sampson 1985, 142, drawings 34, 145, drawing 35.
32. Doumas 1988. In support of the theory of migrations, Nafplioti (2009) has argued that some of the individuals buried at Manika were migrants from western Anatolia.
fluenced ceramic aesthetics.\textsuperscript{34} It is interesting that not all pottery types of the Lefkandi I-Kastri group co-occur at all sites,\textsuperscript{35} a fact that could partially be attributed to sample size and preservation differences, but may also be indicative of local preferences for specific shapes. At sites such as Kolonna on Aegina and Koropi in eastern Attica the local EB II and ‘Anatolian’ traditions seem to have merged, resulting in the creation of hybrid forms with clear ‘metallic’ influences.\textsuperscript{36}

The role of Euboean communities in the process of the adoption of the potter’s wheel in the Aegean and as an important exporter of the ‘Anatolian’ forms to other areas such as Attica and Kea has become clearer in the last decade. The ‘Anatolian’ forms are very well represented in Euboea, at the very large site of Manika near Chalkida\textsuperscript{37} and in the earliest phase of occupation at Lefkandi, Lefkandi phase I (Fig. 4).\textsuperscript{38} Unfortunately, there is not enough information on local and imported fabrics from Manika to allow us to establish whether the shapes are locally made or imported. French’s description of the Lefkandi I fabric as ‘uniform with fine cores, even firing and of light colour (i.e. buff, pale brown and pale red)’ raises the possibility for local production, since this fabric is macroscopically similar to the later local Buff Plain fabric of later periods at Lefkandi.\textsuperscript{39}

At Ayía Irini on Kea, five shapes of the group are represented,\textsuperscript{40} and the Mine 3 assemblage from Thorikos yielded three shapes\textsuperscript{41} (Fig. 4). Wilson reports that all the forms of the group at Ayía Irini III are reproduced in the local Keian red-brown clays except for the wheelmade plate.\textsuperscript{42} Even though further investigation of this data through petrographic analysis still needs to be conducted, the current evidence suggests that Keian potters at Ayía Irini III did not use the ceramic wheel, as opposed to the Lefkandi I potters. The same may be true for Thorikos.\textsuperscript{43}

Therefore, in the late phase of the Early Bronze Age II the potters of Lefkandi had learnt to use the potter’s wheel, most likely through direct contact with potters from other regions who had mastered this technology. The impact of the use of the potter’s wheel in the late EB II was surely very important in the \textit{longue durée} of Aegean prehistoric technology. However, a question arises as to whether wheelmade pottery was valued more than handmade pottery at this stage. The ‘Anatolian’ tableware forms of the Lefkandi I-Kastri group were skeuomorphs, most likely valued because of their aesthetic association with metal vessels and within the social context of feasting\textsuperscript{44} and consumption. There is as yet no data to indicate that the Euboean wheelmade bowls were imported to Attica and Kea because the technology of their manufacture was appreciated; it seems more likely that they were imported with the rest of the Anatolian forms as tableware sets. Still, the settlements of Manika and Lefkandi, strategically located on promontories of the southern Euboean Gulf seem to have enjoyed privileged access to new technologies and ideologies. Lefkandi, especially, can be highlighted as a production centre of wheelmade pottery in this period and as an exporter of ceramics to Kea and eastern Attica.

\textsuperscript{34} Nakou 2007, 228.
\textsuperscript{35} Rutter 1979, 5-7.
\textsuperscript{36} Rutter 2012, 73-79.
\textsuperscript{37} Sampson 1985, 243-261; 1988, 64-68.
\textsuperscript{38} French 1968, 8.
\textsuperscript{39} French 1968, 8; Spencer 2010, 672-673.
\textsuperscript{40} Wilson 1999, 94-101.
\textsuperscript{41} Nazou 2014, 230-231.
\textsuperscript{42} Wilson 1999, 92-93, table 3:3.
\textsuperscript{43} At Thorikos Mine 3, the single example of a wheelmade plate is of a light brown fabric, which is most likely imported (see Nazou 2014, 230).
\textsuperscript{44} Pullen 2013.
Conclusions

The ceramic evidence discussed above indicates that prehistoric pottery-producing communities living on Euboea participated in short- and long-range maritime networks. A coastal network of maritime interaction between the communities of southern Euboea, eastern Attica and Kea was in action as early as the end of the Neolithic period. Ceramic technologies were shared during this period, but pottery exchange among settlements was limited. The social context of this network may have been inter-village marriages, undertaken in order to broaden gene pools45 and form social alliances. One millennium later, at the end of EB II, ceramic imports become increasingly visible in the archaeological record; the data suggests that the settlement of Lefkandi was exporting pottery to the Cycladic island of Kea and perhaps to Thorikos in eastern Attica. The potters of Lefkandi learned to use the potter’s wheel, a technological innovation transmitted through long-distance maritime networks along with new tableware forms and cultural customs.

45. The need for inter-village marriages in order to broaden gene pools and its implications for Early Cycladic maritime interaction and ideology has been discussed by Broodbank (2000, 87-89, 253). It is interesting that Stravopodi’s (1993) study of the human bones from the Tharrounia Cave and cemetery has yielded evidence for endogamy during the Late and Final Neolithic.
Bibliography


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Figures

**Figure 1.** Geographical location of ceramic assemblages used as case-studies: 1) Manika, 2) Lefkandi, 3) Tharrounia, 4) Plakari, 5) Kontra Gliate, 6) Kitsos Cave, 7) Thorikos, 8) Ayia Irini, 9) Kephala.

**Figure 2.** Table indicating the presence and absence of eight Final Neolithic forms (bowl, pithos, hole-mouth jar, necked jar, collared jar, cheese pot, pan and scoop) in the case-studies (Data from Mari 1993, 137-138; Nazou 2014, 300, table 81; Sampson 1993, 110-116; Wilson 1999, 6-19).
Figure 3. The most characteristic shapes of the Lefkandi I-Kastri group (After Rutter 1979, figs. 1, 2):
1-2) wheelmade plate or shallow bowl, 3) shoulder-handled tankard, 4) neck-handled tankard,
5-7) bell-shaped cup, 8-9) depas cup, 10) lentoid jug with cutaway spout, 11) incised pyxis.

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<th>Ayla Irini III</th>
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Figure 4. Table indicating the presence and absence of the 'Anatolian' shapes in the case-studies
(Data after Wilson 1999, 97-100).