

“Minding the Gap”

Against the Gaps: The Early Bronze Age and the Transition to the Middle Bronze Age in the Northern and Eastern Aegean/Western Anatolia

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Abstract

Gaps are not desirable in archaeology, whether they refer to cultural gaps or to gaps in research. When Rutter defined a “gap” between the Early Cycladic IIB and Middle Cycladic I/Middle Helladic I assemblages, it was evident that there existed a real gap in archaeological research of the prehistoric landscapes and islandscapes of the northern and eastern Aegean and of western Anatolia, to the south of Troy. This short article discusses the rich archaeological evidence of the Aegean Early Bronze Age that has accumulated over the past 30 years. It emphasizes cultural dialogues that existed between the eastern Aegean Islands and western Anatolian littoral, on the one hand, and between both of these areas and the Cyclades, mainland Greece, and Crete, on the other; these dialogues are obvious in technology (pottery, metallurgy), in the development of trade networks, in the evolution of political and social practices, in symbolic expressions, and finally in the transformation of the parallel lives of the Early Bronze Age Aegean societies.*

INTRODUCTION

Archaeological research from the 1870s through the 1960s in the eastern Aegean Islands and western Anatolia has revealed a rich and continuous stratigraphic sequence of the Early Bronze Age (3200–2000 B.C.E.) at the extensively excavated sites of Troy, Poliochni on

Lemnos, Thermi on Lesbos, Emporio on Chios, and the Heraion on Samos.¹ When Rutter recognized the Anatolianizing pottery group, which he termed the Kastri/Lefkandi I Group, and defined a “gap” between the Early Cycladic (EC) IIB and Middle Cycladic I assemblages,² it was evident that there existed a real gap in prehistoric research to the south of Troy as well as in the research of some islands of the northern and eastern Aegean.³ Since the 1980s, excavations on the islands of the northern and eastern Aegean (Skala Sotiros, Kastri, Ayios Antonios and Limenaria on Thasos, Mikro Vouni on Samothrace, Palamari on Skyros, Myrina and Koukonissi on Lemnos, the Heraion on Samos, Seraglio on Kos, Asomatos on Rhodes) and in the western Anatolian littoral (Liman Tepe, Bakla Tepe, Çeşme-Bağlararası, Çukuriçi Höyük at Ephesos, Miletos, Tavşan Adası at Didyma)⁴ have filled the gap in research and have contributed with their rich strata to a renewed study of both the chronological sequence and the various aspects of cultural evolution of the aforementioned microregions during the Early Bronze Age.⁵

This article discusses cultural aspects of the Early Bronze Age and the transition to the Middle Bronze Age in the eastern Aegean and western Anatolian littoral. I base this work on the results of my multicriterial

*I was honored to have been invited by Jack Davis to contribute to the Gold Medal Colloquium held at the 114th Annual Meeting of the Archaeological Institute of America (Seattle, 2013) in honor of Jeremy Rutter. I have not yet had the pleasure of collaborating closely with Rutter on any project, despite that I am excavating in the eastern Aegean, the motherland of the Kastri/Lefkandi I Group. However, his substantial publications have accompanied my archaeological career as a researcher and professor. Therefore, I would like to express, as a Greek archaeologist, my deepest gratitude for his inexhaustible energy and his many years of scholarship devoted to Aegean prehistory, and I hope that readers will also join the discussion on the *AJA* website (www.ajaonline.org).

Fig. 1 herein is my own, while a figure of the plan of the EB I–III settlement phases at the Heraion can be found under this article’s abstract at www.ajaonline.org.

¹Kouka 2002, 3, table 1, map 1.

²Rutter 1979, 1983, 1984; see also Pullen 2013, fig. 1.

³Kouka 2002, 2–7, maps 1, 2.

⁴Kouka 2002, 2–7, maps 1, 2; Niemeier 2005, 2007; Şahoğlu 2005, 2007, 2012; Erkanal et al. 2008; Bertemes and Hornung-Bertemes 2009; Horejs et al. 2011; Şahoğlu and Sotirakopoulou 2011; Erkanal and Şahoğlu 2012a, 2012b; Kouka (forthcoming [a]).

⁵Davis 2013, fig. 4.

analysis of the island societies of the eastern Aegean⁶ and, in particular, on the presentation of recent data from Liman Tepe, Miletos, and the Heraion on Samos, where I recently conducted fieldwork. This presentation of the data emphasizes settlement organization, technology (pottery, metallurgy), trade networks, political and social organization, and symbolism to evaluate the cultural transformation from Early Bronze (EB) I through EB III.

On the basis of architectural and economic evidence and the absolute dating of the Early Bronze eastern Aegean and western Anatolia, the following chronological scheme is generally accepted: EB I (3200/3000–2700/2650 B.C.E.), EB II (early) (2700/2650–2500 B.C.E.), EB II (late) (2500–2300 B.C.E.), EB IIIA (2300–2200 B.C.E.), and EB IIIB (2200–2000 B.C.E.), followed by the Middle Bronze Age (2000–1700 B.C.E.) (fig. 1).⁷ According to this subdivision, the Kastri/Lefkandi I phase corresponds to EB II (late) and EB IIIA, while Rutter's gap corresponds to EB IIIB in the eastern Aegean.⁸

LIMAN TEPE

Systematic excavations at Liman Tepe in the Gulf of İzmir by the İzmir Region Excavations and Research Project (IRERP), under the direction of Hayat Erkanal,⁹ have shown a continuous habitation of this harbor site from the Late Chalcolithic through the Late Bronze Age (fig. 2; table 1).¹⁰ Round silos and apsidal buildings in the Early/Middle–Late Chalcolithic (phases Liman Tepe VII b–a), workshops for copper and Melian obsidian, and prestige objects, such as leaf-shaped obsidian arrowheads and marble conical vessels, indicate the economic importance of this harbor settlement and its participation in the com-

mon cultural and symbolic code of an emerging elite in the Aegean fourth millennium B.C.E.¹¹

The economic wealth of the settlement ca. 3000 B.C.E. led the local political authority to adopt a radical new plan in phase Liman Tepe VI. The new architectural concept included a freestanding fortification wall (wdth. 90 cm) with a lower section (ht. 2.7 m) built in stone and punctuated with rectangular buttresses (24 x 24 cm), a ramp-like supporting wall, and a gate flanked by two trapezoidal bastions (see figs. 2, 3).¹² The settlement plan followed a radiating arrangement¹³ of house blocks consisting of at least five long-roomed (lgth. 20–23 m) houses—the biggest known so far in the Early Bronze Age of western Anatolia. In this block of houses, metallurgical workshops, an obsidian workshop, and a workshop for textile production have been identified. The presence in these workshops of gold¹⁴ and silver jewelry and of EC I–IIA imported pottery (e.g., frying pans, incised pythoi and pyxides, Urfirnis sauceboats)¹⁵ is indicative of the economic prosperity and social stratification of Liman Tepe VI in the Anatolian EB I.

The economic wealth of the settlement led in EB II (early) (Liman Tepe V 3b–a) to a reorganization of the site. This reorganization, which included the fortified peninsula with the harbor, extended 700 m farther to the southwest to accommodate an increasing population (see figs. 2, 3). The excavation of a fortification wall (wdth. 1.50 m; ht. up to 2 m) and, in particular, of a monumental bastion (lgth. 29 m; wdth. 20 m; ht. at least 6 m) demonstrates the existence of an extensive communal defensive program, which included more than one apsidal bastion, traces of which could be identified underwater (Liman Tepe V 2b–a and V 1b).¹⁶ The huge bastion of Liman Tepe can be

⁶Kouka 2002.

⁷Kouka 2002, table 1; 2009, 137–40, table 5; 2011, fig. 1; Şahoğlu 2005, fig. 2; Şahoğlu and Sotirakopoulou 2011 (map and chronological table).

⁸For an overview of the Kastri/Lefkandi I phase, see Day et al. 2009, 335–40.

⁹I am grateful to Hayat Erkanal for inviting me to participate in the excavation and publication team of Liman Tepe and to all colleagues involved in this project, in particular Vasif Şahoğlu and Rıza Tuncel, for wonderful cooperation since 2000. The IRERP is generously supported by the Ministry of Tourism and Culture, Turkey; Ankara University Scientific Research Fund (project no. 2006-0901024); Dil ve Tarih Coğrafya Fakültesi, Ankara University; Türkiye Bilimsel ve Teknolojik Araştırma Kurumu (TÜBİTAK) (project no. 108K263); the Institute for Aegean Prehistory (INSTAP) and the INSTAP Study Center for East Crete; the Urla municipality; and the Turkish Historical Society.

¹⁰Erkanal 2008; Kouka 2009, 141–47; Erkanal and Şahoğlu

2012a; Kouka and Şahoğlu (forthcoming); Şahoğlu (forthcoming). These articles include older bibliographic references for Liman Tepe.

¹¹Kouka 2008, 312–13, fig. 27.1; 2009, 143–44, figs. 4–6; Erkanal and Şahoğlu 2012a, 221; Tuncel (forthcoming).

¹²Erkanal et al. 2003, 424–25, fig. 1; 2004, 165–68, figs. 1–3; 2009, 307–8, table 1, map 1; 2012, 465–68, figs. 1, 2, plan 1; Erkanal 2008, 180, figs. 5, 6; Kouka 2009, 144–46, figs. 2, 3, 7–9; Erkanal and Şahoğlu 2012a, 222–25, figs. 4–6, plan 1; Kouka and Şahoğlu (forthcoming).

¹³Kouka 2002, 152–54; Erkanal et al. 2010, 348–52, pl. 1, figs. 1, 4–7; 2011, 447, pl. 1, figs. 2, 3; 2012, 465–69, pl. 1, figs. 1, 2.

¹⁴Erkanal et al. 2003, 425, fig. 3; Kouka and Şahoğlu (forthcoming).

¹⁵Kouka 2009, 146, fig. 9; Kouka and Şahoğlu (forthcoming).

¹⁶Erkanal 1999, 240; 2008, 182–83, figs. 2–5, 7; 2011, 131–32, figs. 4, 5; Erkanal and Şahoğlu 2012a, 225, figs. 1, 2, plan 1.

Date (B.C.E.)	Crete	Mainland Greece	Cyclades	Eastern Aegean Islands	Liman Tepe	Troy	Tarsus	Anatolia	Cyprus
2000	EM III	EH III	EC III/ Phylakopi I	Koukonissi	IV	V IV	EB III B	EB III B	EC III
2200						III	EB III B	EB III A	EC I-II
2400	EM IIB	EH II (late)/ Lefkandi I	EC II (late)/ Kastri	Poliochni Yellow		II (late)	EB III A	EB II (late)	Philia
2600	EM IIA	EH II (early)	EC II (early)/ Keros-Syros	Poliochni Red	V	II (early)	EB II	EB II (early)	
2800				Poliochni Green		I (late)			Late Chalcolithic
3000	EM I	EH I	EC I/ Kampos	Poliochni Blue	VI	I (middle)	EB I	EB I	
					VII	I (early)		Late Chalcolithic	Middle Chalcolithic

Fig. 1. Early Bronze Age comparative chronology of the Aegean and Anatolia. Dashed lines represent the divisions between the main cultural phases.

best compared with the much smaller EB IIB apsidal bastions (diam. 3–10 m) known from Palamari on Skyros, Kastri on Syros, Panormos on Naxos, Markiani on Amorgos, Kolonna on Aegina, and Lerna in the Argolid.¹⁷ Part of a contemporaneous fortification, similar in construction technique and reinforced with an apsidal bastion of smaller size, discovered 700 m southwest of the peninsula, marks the limitation of a lower town at EB II Liman Tepe V (see fig. 2).¹⁸ House architecture of Liman Tepe V included rectangular rooms of different sizes and orientations, organized in insulae like the ones known, for example, from Poliochni Blue to Yellow, Troy IIg, and Palamari III.

A street beginning at a gate (equipped with a stone ramp and protected with low walls) and pass-

ing through a stone-built monumental propylon (EB II [late]) gave access to a large architectural complex in the heart of the fortified peninsula.¹⁹ This complex included a central, irregular court (wdth. 5–6 m), two rows of rectangular rooms to the north, and a storage building (lgth. at least 14.5 m; wdth. 1.2 m; depth 2.0 m) with three compartments to the south. The presence of storage facilities, along with serving, drinking, and eating vessels, a bell-shaped stone stamp seal, seven stone *phalloi*, and a clay bull rhyton, suggests that this building complex was a central communal building with economic/administrative, political, and symbolic character.²⁰ Similar residential buildings or complexes existed also in EB II at Troy II (Megaron IIA), Poliochni Blue to Yellow (Megaron

¹⁷ Walter and Felten 1981, 28–34, figs. 21, 22, pls. 1, 2, 7; Broodbank 2000, 314–15, fig. 105; Wiencke 2000, 91–100, figs. 1.11, 1.16, 1.18, 1.19, pls. 5–7; Parlama 2007, 38–41, figs. 1–3, 11.

¹⁸ Erkanal 2011, 132, fig. 5; Ersoy et al. 2011.

¹⁹ Şahoğlu 2005, 350 (with older bibliography); Erkanal 2008, 182–83, figs. 4, 8.

²⁰ Erkanal 2008, 182–83, figs. 4, 8; Erkanal and Şahoğlu 2012a, 225–26, fig. 8. Cf. the Early Helladic (EH) II corridor houses on mainland Greece (Pullen 2013).

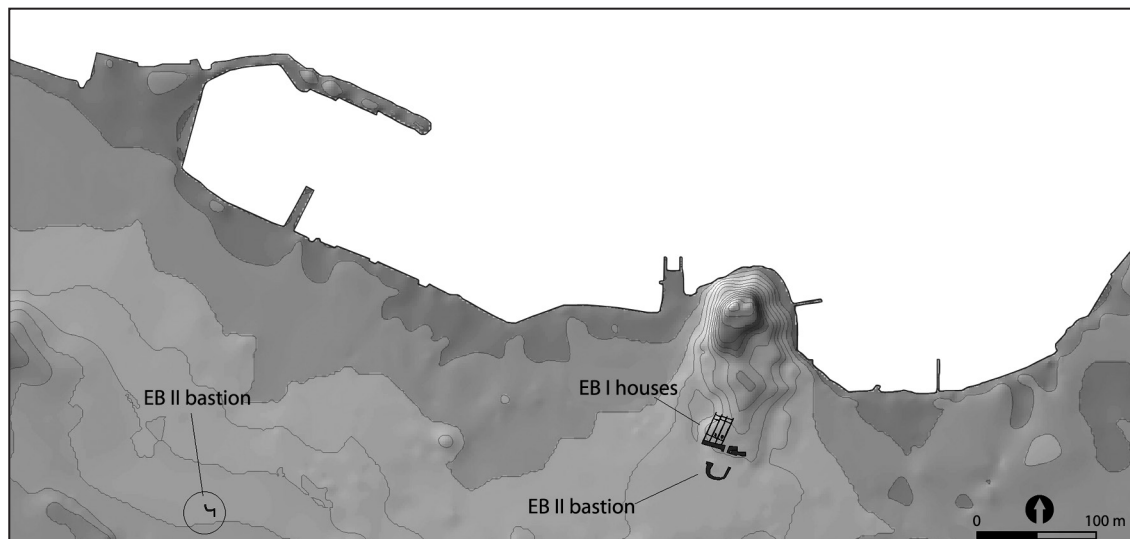


Fig. 2. Topographical map of Liman Tepe, showing the fortifications of EB I–II (drawing by M. Massa; Erkanal and Şahoğlu 2012a, fig. 1).

317), Thermi I–IIIB (Building A), Thermi V (Building Θ), Heraion III (Cyclopean Building), Küllüoba, and Karataş-Semayük I–IV.²¹

The well-stratified ceramics of the communal storage building have been studied by Şahoğlu and are crucial for the late EB II and EB IIIA chronology in western Anatolia and for the EB IIB chronology in the Aegean.²² In Liman Tepe V 2 (i.e., at the initial phase of Şahoğlu’s “Anatolian trade network” period, which is contemporary with the Kastri/Lefkandi I phase), we see carinated bowls with lugs on the carination, tripod bowls with plastic or incised decoration, and the first appearance of bell-shaped cups, one-handed cups, cutaway spouted jugs, and teapots. These forms appear with imported EC II incised pyxides, transport jars, Urfirnis sauceboats, and marble bowls,²³ as well as with a fragment of an Early Minoan (EM) IIB red-black mottled, two-handed bowl made of red mudstone/clay pellet fabric from the Gulf of Mirabello, east Crete,²⁴ which is one of the earliest and rarest EM II finds in western Anatolia. In the mature late EB II (Liman Tepe V 1b), the aforementioned types continued. Extant one-handed cups²⁵ and bell-shaped cups, however, were few;²⁶ Urfirnis sauceboats disappeared,

Table 1. Stratigraphic Sequence of the Chalcolithic and Early Bronze Age at Liman Tepe.

Liman Tepe Phases	Cultural Periods
Liman Tepe VII	
VII b	Early/Middle Chalcolithic
VII a	Late Chalcolithic
Liman Tepe VI	
VI 1d	EB I (early–middle)
VI 1c–VI 1b	EB I (middle)
VI 1b–VI 1a	EB I (late)
Liman Tepe V	
V 3b–V 3a	EB II (early)
V 2b, V 2, V 1b	EB II (late)
V 1a	EB II (final)
Liman Tepe IV	
IV 2	EB IIIA
IV 1	EB IIIB

²¹ Warner 1994, pls. 8, 9; Kouka 2002, 75, 93, 116, 167–68, 179, 194, 203, 237, 290, pls. 4, 6, 8, 10, 14, 17, 20, 23, 32, 51, 56b, 56c; Efe 2007, 49–50, figs. 4, 6a, b.

²² Şahoğlu 2002; 2004a, 101–4, fig. 15; 2005, 350, fig. 3; 2011, 138–39, fig. 3, cat. nos. 105–9, 112, 115, 123; (forthcoming).

²³ Şahoğlu 2004a, figs. 3a–c, 4a, b; Şahoğlu and Sotirakopoulou 2011, cat. nos. 105–8, 112, 114.

²⁴ Day et al. 2009, 342.

²⁵ Şahoğlu and Sotirakopoulou 2011, cat. no. 112.

²⁶ Şahoğlu 2004a, fig. 4a.



Fig. 3. Liman Tepe from the northwest (H. Çetinkaya; Erkanal and Şahoğlu 2012a, fig. 2).

while tankards—some of them wheelmade—were produced for the first time.²⁷ In final late EB II (Liman Tepe V 1a), the previous red and black lustrous fine wares were present; the production of tankards—some of which had grooved decoration on the neck—increased, and depas cups made their first appearance.²⁸

In EB IIIA (Liman Tepe IV 2), the area of the central building complex was sealed by a system of stone terraces, which rose to the highest part of the peninsula; the construction of these terraces must have been prompted by significant political and economic change in the settlement.²⁹ Tankards and depas cups were less popular, while wheelmade plates appeared for the first time. Among the tankards, a fine gray burnished one is a unique find from the western Aegean (Lerna IV).³⁰ This phase marks the end of the Anatolian trade network and therefore the end of the Kastri/Lefkandi I phase in the central and western Aegean.

EB IIIB (Liman Tepe IV) houses are very scarce,³¹ since rectangular houses of this period seem to have been destroyed during the reorganization of the settlement in the Middle Bronze Age. The fortification with the apsidal bastions was no longer used. However, there was a communal open space south of the EB II (late) residential complex, which had been in use since EB I for communal practices. In EB III, it had at least 12 pits.³² The pits contained large amounts of animal bones, marine shells, burnt cereals, and red and reddish-orange burnished pottery, particularly jars, jugs, shallow bowls and plates (some wheelmade), deep bowls with relief decoration, and depas cups and tankards of later types. Each pit also held at least one tortoise shell. As there is no evidence either for eating tortoises or for using their shells as musical instruments, the tortoise shells may symbolize fertility, as this symbolism is known to have been present in Anatolia

²⁷ Şahoğlu 2004b, fig. 3a.

²⁸ Şahoğlu 2004a, figs. 6a, 12; 2004b, figs. 2a–c.

²⁹ Erkanal et al. 2003, fig. 4, plan 1; 2004, figs. 6, 8.

³⁰ Şahoğlu (forthcoming).

³¹ Erkanal et al. 2004, figs. 6, 8; Aykurt (forthcoming).

³² Erkanal et al. 2009, 305–7, fig. 8.

since the Pre-Pottery Neolithic B (PPN-B) period.³³ In one of the pits, a tortoise shell was found along with a red burnished trefoil-mouthed juglet with a hole at its base, which was apparently used as a rhyton. To the same context belonged a tiny golden leaf.³⁴ The finds inside and outside the pits from this communal space of EB IIIB Liman Tepe could be interpreted as the remnants of a communal feast dedicated to life and fertility. Similar feasts where wine was consumed also occurred in the residential building of the EB II (late) period, where stone *phalloi* were used as symbols of fertility.³⁵ Therefore, we can conclude that despite the abandonment of the residential complex of Liman Tepe V and the new architectural concept of Liman Tepe IV, symbolism continued from the EB II (late) through the EB IIIB periods without any break in the population.

Feasts for fertility are also known from other sites of western Anatolia during the late EB II–III, including final Troy II and Troy III, Bavurdu, the cemetery of Bakla Tepe (special deposit), Miletos II, Seyitömer, and Karataş-Semayük.³⁶ The EB IIIB feasts at Liman Tepe signify strong social relationships. The strong social links, the diachronic symbolism, and the establishment of Liman Tepe since the Late Chalcolithic as a central harbor settlement in the Gulf of İzmir under a strong political authority may account for the reorganization of the settlement in the Middle Bronze Age with the use of huge oval houses and communal silos.³⁷

MILETOS

Miletos is located in the delta of the Meander River, one of the most spectacular cases of delta progradation in the Mediterranean.³⁸ Excavations in the area of the Temple of Athena, directed by Barbara and Wolf-Dietrich Niemeier,³⁹ brought to light six successive architectural levels dating from the Late Chalcolithic through the Late Bronze Age.⁴⁰ Miletos I was a typical

eastern Aegean/western Anatolian settlement and an important distributor of Melian obsidian along the Meander Valley.⁴¹ Miletos II belongs to late EB II–III. Between 3000 and 2500 B.C.E., the Late Chalcolithic settlement in the area of the Temple of Athena was flooded by the sea,⁴² and the inhabitants had to move to higher ground during EB I and EB II (early). The area of the Temple of Athena was resettled ca. 2500 B.C.E., when this area turned into a small island.

The architecture of Miletos II includes only the stone foundation of a rectangular building oriented northeast–southwest.⁴³ To the east of it was found a large red volcanic millstone (60 x 40 cm) placed upside down; scattered around it were five marble and one limestone late EB II–III schematic Anatolian figurines, as well as cattle and sheep/goat bones.⁴⁴ Close to these figurines was found the head of an EC IIA figurine of the Dokathismata type (Keros-Syros phase)⁴⁵ sculpted in Naxian marble. The pottery related to this context is very scarce and includes rims of shallow bowls, depas cups, and tankards—namely, types associated with feasting and definitely later than the EC IIA figurine. It is not yet clear whether the feasting in this open space at Miletos promoted fertility, as was the case at EB IIIB Liman Tepe.⁴⁶

Among the late EB II medium-coarse wares, there is quite a bit of variation in pottery fabrics, with gray, brown, red, and red-orange polished or highly burnished surfaces appearing. Common pots are jugs, jars, pyxides, tankards, depas cups (fig. 4, left), and shallow bowls. The EB III pottery includes fine gray and red burnished ware, as well as red washed pots, such as hand- or wheelmade shallow bowls with or without plastic decoration and hybrid depas cups (see fig. 4, right). The decorated wares include red polished askoi with incised decoration, red burnished bowls with plastic decoration, and gray burnished jugs with incised decoration. As for the imported pottery, there

³³ Erkanal et al. 2009, 306–7. For the symbolism of tortoise shells in the PPN-B at Nevalı Çori, see Hauptmann 1999, 76, fig. 16.

³⁴ Erkanal et al. 2009, 306, fig. 8.

³⁵ For feasting on mainland Greece and Crete during EB II, see Pullen 2013.

³⁶ Kouka 2011, 47–9 (with further bibliography).

³⁷ Erkanal and Şahoğlu 2012a, 227–28.

³⁸ Brückner et al. 2006.

³⁹ I would like to thank Barbara and Wolf-Dietrich Niemeier for entrusting to me the publication of the Late Chalcolithic and Early Bronze Age material from their excavations at the Temple of Athena at Miletos.

⁴⁰ Niemeier and Niemeier 1997; Niemeier 2000, 2007.

⁴¹ Niemeier and Niemeier 1997, 241, fig. 81a; Niemeier 2000, 125–26, figs. 2, 3; 2007, 6–7, pls. 1.1, 1.2.

⁴² Brückner et al. 2006, 70–1, figs. 1–3, tables 1, 2.

⁴³ Niemeier 2000, 127, fig. 4; 2007, 7–8, pls. 1.3–5.

⁴⁴ Niemeier and Niemeier 1997, 241, fig. 82; Niemeier 2000, 127, fig. 127; 2007, 7. Three of the figurines are flat with triangular heads and depict a variation of the so-called Kusura type; one is shaped like an “8,” a type well known from Troy I–III, and another one is flat and has a rectangular body, while its head is missing (Kouka [forthcoming (b)]).

⁴⁵ Niemeier 2007, 8, pl. 1.3.

⁴⁶ A working hypothesis for the interpretation of such a context would be the preservation over more generations of the figurine and its use only in specific symbolic-religious events (Kouka [forthcoming (b)]). Cf. the group of figurines of Plastiras type (EC I) found at the so-called Cenotaph Square of Late Cycladic IA Akrotiri, which supports this working hypothesis (Doumas 2008, 170–75, figs. 17.14, 17.15, 17.17).



Fig. 4. EB II (late) and EB III depas cups from Miletos II (C. Papanikolopoulos).

are several duck vases/*askoi* typical of the EC III period (Phylakopi I.2–3),⁴⁷ as well as EM IIB miniature vases, such as a *pyxis* with vertical lugs and a *juglet* with a light-brown washed surface. The ceramics of Miletos II have parallels in Troy II (late) through Troy IV (early), Poliochni Red and Yellow, Liman Tepe V–VI, Emporio III–I, Heraion II–V, and Asomatos on Rhodes. Furthermore, the imports from the Cyclades and Crete indicate the participation of Miletos in the local and more extensive trade networks of the Aegean EB II (late) and EB III. Moreover, the presence of the imports points to contacts with the coastal south and central Anatolia, as the metal-like form of an EB III hybrid *depas* shows (see fig. 4, right). The extremely thin body and handles of this *depas*, as well as the lustrous surface, point to a very special ceramic product that imitates metallic prototypes with close parallels at Heraion IV–V.⁴⁸ The quality of finds from the Temple of Athena at Miletos—despite the very fragmentary architectural evidence—points to the presence of a flourishing harbor settlement open to both the Aegean and the Anatolian world, which was inhabited without interruption in the Middle and Late Bronze Ages.

THE HERAION ON SAMOS

The prehistoric settlement at the Heraion is located on the southern coast of the island of Samos, in the biggest, most fruitful, and best-watered plain of the island. The settlement extended on flat ground between the two main branches of the Imvrassos River in an area covering 35 m². This settlement was the biggest island settlement in the Early Bronze Age in the eastern Aegean, as indicated by the published excavations of Miložčić⁴⁹ and by the ones known only from preliminary reports by Walter⁵⁰ and Isler⁵¹ in the area of the Temple of Hera (online fig. 1 on the *AJA* website⁵²). The Early Bronze phases, Heraion I–V as defined by Miložčić, were synchronous with Troy II–Troy IV (ca. 2500–2000 B.C.E.). Earlier finds, dating in phase Heraion I, were excavated in 1981 by Kyrieleis and Weisshaar beneath the Late Roman settlement north of the Sacred Road.⁵³ More recent excavations north of the Sacred Road, conducted by the University of Cyprus in cooperation with the Deutsches Archäologisches Institut (DAI),⁵⁴ brought to light successive architectural phases dating from the Late Chalcolithic through early EB II, which represent the earliest known core of settlement at the

⁴⁷Niemeier 2007, 8, pl. 1.5.

⁴⁸Miložčić 1961, pls. 14.6–8, 15.4, 15.8, 39.22. For variations of this hybrid *depas* (combination of tankard and *depas*) from the end of EB III, see Goldman 1956, fig. 266, nos. 508, 511, 512 (Tarsus); Joukowsky 1986, 390, fig. 323 (Aphrodisias).

⁴⁹Miložčić 1961.

⁵⁰Walter 1963, 286–89.

⁵¹Isler 1973.

⁵²See www.ajaonline.org.

⁵³Kyrieleis et al. 1985, figs. 2, 35–7.

⁵⁴I would like to thank Wolf-Dietrich Niemeier and the DAI for offering the University of Cyprus the opportunity to undertake under my direction the excavations north of the Sacred Road at the Heraion of Samos (2009–2013). The project has been generously supported by the University of Cyprus A.G. Leventis Foundation Research Project, the Department of History and Archaeology of the University of Cyprus, INSTAP, and the Fritz Thyssen Stiftung für Wissenschaftsförderung.

Heraion.⁵⁵ In addition, part of the Middle Bronze Age fortified settlement was investigated for the first time, demonstrating a longer use of the area for habitation purposes than previously thought.

Work in 2011 demonstrated that the Late Chalcolithic settlement sat directly on virgin soil.⁵⁶ Although the architecture of the settlement was badly destroyed by the deep foundations of the EB I–II walls, some house remains were recovered; these included roof beams, roof clay, and remnants of floors laid with either fine sea pebbles or limestone slabs. The pottery is typical for this part of the Aegean and contemporary with Tigani IV (late), Emporio VII–VI, and Miletos I.⁵⁷

More is known about the EB I–II (early) settlement (3200–2500 B.C.E.). It consisted of long-roomed houses with stone foundations that were assigned to five successive architectural phases; the settlement also had a communal storage building⁵⁸ and a stone-built fortification supported by a stone ramp and flanked by rectangular bastions (cf. Troy I, Poliochni Blue, Liman Tepe VI).⁵⁹ It seems that, as in the other settlements of the northern and eastern Aegean, demographic (population growth), economic (wealth, interaction), social, and political factors in phase Heraion I precipitated an extension of the Early Bronze settlement toward the west, to the area of the Temple of Hera, and highlighted the need for a new fortification wall (see online fig. 1).

The erection of a strong fortification (used in phases Heraion I–V), the existence of a “Communal Storage Building” (Heraion I) and the residential “Cyclopean Building” (Heraion III), and the radiating plan of the settlement with rectangular and trapezoidal houses suggest the presence of a political authority.⁶⁰ Besides, the quality, quantity, and distribution of finds (pottery, small finds, and imports) point to developed economic structures and a wealthy, socially stratified settlement occupied by an elite that was using, in late EB II and EB III, fine drinking cups. These cups imitate metallic prototypes and are similar to ones used at Liman Tepe V–IV, Miletos II, and EB III at Tarsus for communal feasts. More specifically, the pottery of phase Heraion I included footed bowls and cutaway spouted jugs and date this phase to early EB II.⁶¹ The pottery of Heraion

II comprised two-handled bell-shaped cups, one-handled tankards, and the first wheelmade plates dating to late EB II.⁶² That of Heraion III encompassed variations of depas cups belonging to the final stage of late EB II.⁶³ Finally, Heraion IV and V pottery included depas cups⁶⁴ and Early Cycladic askoi with incised decoration that are dated to the latter phases of EB III.⁶⁵

The EB III settlement was followed by a fortified Middle Bronze Age settlement, as shown by six stratigraphically successive architectural phases uncovered in 2011 and 2012 north of the Sacred Road.⁶⁶ The pottery from this settlement includes local orange and red washed cups and deep bowls with bead rims synchronous with Troy V–VI (early), Liman Tepe III, Çeşme-Bağlararası 2b, Miletos III, Tavşan Adası, Iasos, and Beycesultan V–IV. There are, in addition, a remarkable number of Middle Helladic gray Minyan goblets, Middle Cycladic deep bowls and beak-spouted jugs, and Middle Minoan IIA–IIIA black-coated cups and bridge-spouted skyphoi, as well as local imitations of conical cups, tripod cooking pots, and an ovoid-mouthed amphora imitating metal prototypes. This pottery clarifies the significance of the Middle Bronze Heraion as an important trading post in the southeastern Aegean in the Old Palace period.

CONCLUSIONS

The Early Bronze Age in the northern and eastern Aegean Islands and the western Anatolian littoral exhibits a cultural uniformity in terms of political and economic structures and social dynamics, as demonstrated both by extensively excavated sites—such as Poliochni and Myrina on Lemnos, Thermi on Lesbos, the Heraion on Samos, Palamari on Skyros, Troy, Liman Tepe, Bakla Tepe, and Iasos—and by the less well excavated sites, such as Skala Sotiros and Limenaria on Thasos, Mikro Vouni on Samothrace, Koukonissi on Lemnos, Emporio on Chios, Asomatos on Rhodes, Beşik-Yassı Tepe, Çeşme-Bağlararası, Çukuriçi Höyük, Miletos, and Tavşan Adası. Archaeological evidence at all these sites allows us to recognize a distinct cultural unit in this part of the Aegean and to see how these specific sites contributed to the formation of a cultural “koine” beginning in the EB I period.⁶⁷

⁵⁵ Morgan et al. 2009–2010; Niemeier and Kouka 2010, 2011, 2012.

⁵⁶ Niemeier and Kouka 2012, 100.

⁵⁷ Kouka (forthcoming [a]).

⁵⁸ Morgan et al. 2009–2010, 157, fig. 163; Niemeier and Kouka 2010, 113, fig. 16; 2011, figs. 17, 18; 2012, fig. 21.

⁵⁹ Kyrieleis et al. 1985, figs. 2, 35–7.

⁶⁰ For a detailed verification of the Early Bronze Age settlement at Heraion (I–V) based on the publication of Milojević

and the preliminary report of Kyrieleis and Weisshaar (phases earlier than Heraion I), see Kouka 2002, 285–94, pls. 45–55.

⁶¹ Niemeier and Kouka 2011, fig. 18.

⁶² Milojević 1961, pls. 14.4, 16, 21.1, 29, 39.23.

⁶³ Milojević 1961, pls. 14.6–8, 39.28.

⁶⁴ Milojević 1961, pls. 13.3, 15.4, 15.8, 21.3, 28.7.

⁶⁵ Milojević 1961, pls. 18, 19.8, 23.1, 24.7–13, 38.16.

⁶⁶ Niemeier and Kouka 2012, 101.

⁶⁷ Kouka 2002, 299–300.

Despite the cultural uniformity, only some of these sites reached their peak of prosperity in the long EB II period;⁶⁸ they did so as a result of their participation in sea- and land-based trading networks associated with bronze technology, the development of new ceramic technologies, the exchange of prestige goods, the use of symbolism, and the influx of new ideas. Settlements like Troy II, Liman Tepe V, Bakla Tepe EB II–III, Poliochni Green to Yellow, Myrina, Thermi IV–V, Heraion III–V, and Palamari II–III were enlarged and replanned to accommodate population growth and were reinforced by strong fortifications. Thus, they became landmarks in their microregions, equipped with communal buildings with either an economic or a political character, craft specialization, social stratification (political authority, economic elite of metalworkers/traders, farmers), and personal and communal symbolism.⁶⁹ I use the presence of these features as a criterion for designating these sites as settlements with early urban features or as centers of their microregions. I acknowledge, however, that these early urban centers are not at all comparable to those of, for example, Early Dynastic Mesopotamia, whose geographic and economic landscape differs entirely from that found in the land- and islandscapes of the Aegean.

Cultural interaction reached its peak in late EB II, known in the central and western Aegean as the Kastri/Lefkandi I phase (Maran's "Zeit der Wende"),⁷⁰ and in Anatolia in the late EB II–IIIa, called the period of the Anatolian trade network⁷¹ or the period of the Great Caravan Route.⁷² This phase is characterized by central politico-economic and religious architectural complexes, organized cemeteries with rich pithos burials, new pottery technology, use of vessels for the consumption of wine by the elites during special feasts, an administrative system, craft specialization in the working of precious metals and bronzes, and intensification of sea trade. East Aegean regional centers, such as Troy, Poliochni, Liman Tepe, and Bakla Tepe, provided tin alloys to the Cyclades and the east coast of mainland Greece through the Anatolian trade network. In addition, their elites, consisting since EB I of metalworkers/traders, introduced to the central Aegean new eating and drinking habits in the context of the newly established commensal feasts (e.g., the use of shallow bowls, wheelmade bowls, red or black

lightly burnished tankards, bell-shaped cups, depas cups, spouted globular jugs, and teapots).⁷³ The spread of tankards and depas cups, the most characteristic vessels of the new drinking set, reached a wide geographic region from Kanlıgeçit in eastern Thrace⁷⁴ up to Tarsus and northern Mesopotamia.⁷⁵ Şahoğlu has proposed that specific settlements, distinctive through apsidal bastions, represented the strongest links of the Anatolian trade network.⁷⁶ Apart from sea routes, an inland trade route, called the Great Caravan Route, was established in Anatolia linking the south-southeast, central, and western parts of the region.⁷⁷ The Great Caravan Route introduced to western Anatolia, in particular, tin or tin alloys, craftsmen and artisans (goldsmiths), measuring systems for precious metals, and the potter's wheel.⁷⁸ The extended trade networks of the Aegean and Anatolia were not isolated but were linked with those of the eastern Mediterranean and the Near East.

The strong interaction between powerful early urban settlements of late EB II and early EB IIIa led to serious sociopolitical changes in EB IIIb, as suggested by the decline of the once strong centers in western Anatolia (Troy II, Liman Tepe) and by the contraction of the Anatolian trade network.⁷⁹ From this trade network, only the inland branch, the Great Caravan Route, survived, as the sites of central Anatolia (Kültepe) and southern Anatolia (Tarsus) indicate.

Archaeological evidence from the eastern Aegean and western Anatolia does not show any gaps either during the Early Bronze Age or at the transition to the Middle Bronze Age. Rather, the nonexistence of a Middle Bronze Age at a few sites, such as Skala Sotiros on Thasos, Asomatos on Rhodes, and Bakla Tepe, and the limited Middle Bronze Age habitation at Poliochni are related to the habitation shift to neighboring sites—for example, from Poliochni to Koukonissi or from Bakla Tepe to Kocabaş Tepe. Moreover, at Çeşme-Bağlararası⁸⁰ and the Heraion, for example, the Middle Bronze Age settlement moved only a few meters away from the core of the Early Bronze Age settlement.

When scholars speak about gaps in the prehistoric Aegean, they should remember that each microregion or each settlement acted diachronically as an independent cultural entity, despite cultural interaction with neighboring areas. Gaps may be the result of cultural

⁶⁸ Kouka 2002, 300–1.

⁶⁹ Kouka 2011, 44–5.

⁷⁰ Maran 1998, 1:140–46, 153–59, 450–57; 2:pls. 11–13, 80–1.

⁷¹ Şahoğlu 2005.

⁷² Efe 2007.

⁷³ Kouka 2002, 300–1.

⁷⁴ Özdoğan and Parzinger 2012, 60, 267–78, figs. 26, 32, 37,

51, 54, 65.

⁷⁵ Korfmann 2001, 361–65, fig. 398; Kouka 2011, fig. 2.

⁷⁶ Şahoğlu 2005, figs. 1, 2.

⁷⁷ Efe 2007, 61–2, figs. 17a, b.

⁷⁸ Kouka 2002, 299, 305.

⁷⁹ Şahoğlu 2005, 354–55.

⁸⁰ Şahoğlu 2007, 2012.

differentiation and should be studied by taking into consideration additional parameters besides political and social ones, such as climate changes and the geographic location of sites, including whether they were placed on land- and/or sea-trade routes.⁸¹ For example, the cultural interaction and competition among the stronger island settlements of the eastern Aegean and those of the western Anatolian littoral led to the abandonment (Thermi) or decline (Emporio) of some sites at the end of early EB II,⁸² while other sites, because of their location on crucial sea routes, flourished in late EB II through the Middle Bronze Age (Troy, Mikro Vouni, Koukonissi, Palamari, Liman Tepe, Heraion, Miletos, Tavşan Adası, Iasos).⁸³

The societies of the northern and eastern Aegean and western Anatolian littoral demonstrate a strong extroversion in EB I to early EB II, as Melian obsidian, metals and metal objects, and pottery from the Cyclades found in eastern Aegean sites indicate. This extroversion became more intense in late EB II to EB IIIA as a result of the emergence of an eastern Aegean political and social elite that passed on bronzeworking technology and a new set of eating and drinking vessels to its counterparts of the Kastri/Lefkandi I phase in the central and western Aegean. Political changes in EB IIIB did not lead the eastern Aegean and western Anatolian littoral to a cultural gap but to an introversion, as documented in the lack of imports and in the pottery that follows the tradition of the late EB II shapes (wheelmade plates, variations of depas cups). The same population entered the Middle Bronze era interacting with the Cyclades, mainland Greece, and the old palaces of Minoan Crete.

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Works Cited

- Aykurt, A. Forthcoming. "Liman Tepe During the Transition Period from the Early Bronze Age to the Middle Bronze Age." In *The Aegean Early Bronze Age: New Evidence. International Conference, Athens, April 11th–14th*, edited by C.G. Doumas, A. Giannikouri, and O. Kouka. Athens: Ministry of Culture, Archaeological Institute of Aegean Studies.
- Bertemes, F., and K. Hornung-Bertemes. 2009. "Minoer in Didyma: Ein Siegel und seine Geschichte." In *Zurück zum Gegenstand: Festschrift für Andreas E. Furtwängler*. Vol. 1, edited by R. Einicke, S. Lehmann, H. Löhner, G. Mehnert, A. Mehnert, and A. Slawisch, 169–94. Schriften des Zentrums für Archäologie und Kulturgeschichte des Schwarzmeerraumes 16. Langenweißbach: Beier & Beran.
- Broodbank, C. 2000. *An Island Archaeology of the Early Cyclades*. Cambridge: Cambridge University Press.
- Brückner, H., M. Müllenhoff, R. Gehrels, A. Herda, M. Knipping, and A. Vött. 2006. "From Archipelago to Floodplain: Geographical and Ecological Changes in Miletus and Its Environs During the Past Six Millennia (Western Anatolia, Turkey)." In *Holocene Landscape Development and Geoarchaeological Research*, edited by B. Eitel, 63–83. *Zeitschrift für Geomorphologie* Suppl. 142. Berlin: Gebrüder Borntraeger.
- Davis, J.L. 2013. "Minding the Gap: A Problem in Eastern Mediterranean Chronology, Then and Now." *AJA* 117(4):527–33.
- Day, P., C. Doumas, H. Erkanal, V. Kilikoglou, O. Kouka, M. Relaki, and V. Şahoğlu. 2009. "New Light on the 'Kastri Group': A Petrographic and Chemical Investigation of Ceramics from Liman Tepe and Bakla Tepe." In *24. Arkeometri Sonuçları Toplantısı: 26–30 Mayıs 2008, Ankara*, 335–46. Ankara: Ministry of Culture and Tourism.
- Doumas, C. 2008. "Chambers of Mystery." In *Horizon: A Colloquium on the Prehistory of the Cyclades*, edited by N. Brodie, J. Doole, G. Gavalas, and C. Renfrew, 165–75. McDonald Institute Monographs. Cambridge: McDonald Institute for Archaeological Research.
- Efe, T. 2007. "The Theories of the 'Great Caravan Route' Between Cilicia and Troy: The Early Bronze Age III Period in Inland Western Anatolia." *AnatSt* 57:47–64.
- Erkanal, H. 1999. "Early Bronze Age Fortification Systems in İzmir Region." In *Meletemata: Studies in Aegean Archaeology Presented to Malcolm H. Wiener as He Enters His 65th Year*. Vol. 1, edited by P.P. Betancourt, V. Karageorghis, R. Laffineur, and W.-D. Niemeier, 237–42. *Aegaeum* 20. Liège and Austin: Université de Liège and University of Texas at Austin.
- . 2008. "Liman Tepe: New Light on Prehistoric Aegean Cultures." In *The Aegean in the Neolithic, Chalcolithic and the Early Bronze Age: Proceedings of the International Symposium, Urla-Izmir, October 13–19, 1997*, edited by H. Erkanal, H. Hauptmann, V. Şahoğlu, and R. Tuncel, 179–90. Ankara University Research Center for Maritime Archaeology Publication 1. Ankara: Ankara University.
- . 2011. "Early Bronze Age Settlement Models and Domestic Architecture in the Coastal Region of Western Anatolia." In *Across: The Cyclades and Western Anatolia During the 3rd Millennium BC*, edited by V. Şahoğlu and P. Sotirakopoulou, 130–35. Istanbul: Sakip Sabanci Museum.
- Erkanal, H., and V. Şahoğlu. 2012a. "Liman Tepe (1992–)." In *DTCF Arkeoloji Bölümü, Tarihcesi ve Kazıları (1936–2011)*, edited by O. Bingöl, A. Öztan, and H. Taskiran, 219–30. *Anadolu/Anatolia* Suppl. 3(2), Festschrift Series. Ankara: Ankara University, Journal of the Archaeology Department, Faculty of Letters.
- . 2012b. "Bakla Tepe (1995–2001)." In *DTCF Arkeoloji Bölümü, Tarihcesi ve Kazıları (1936–2011)*, edited by O. Bingöl, A. Öztan, and H. Taskiran, 91–8. *Anadolu/*

⁸¹ Şahoğlu 2005, 354; Wiener 2013.

⁸² Kouka 2002, 300.

⁸³ E.g., Niemeier 2007; Bertemes and Hornung-Bertemes 2009.

- Anatolia Suppl. 3(2), Festschrift Series. Ankara: Ankara University, Journal of the Archaeology Department, Faculty of Letters.
- Erkanal, H., M. Artzy, and O. Kouka. 2003. "2001 Yılı Liman Tepe Kazıları." In *24. Kazı Sonuçları Toplantısı*. Vol. 1, 423–36. Ankara: Ministry of Culture and Tourism.
- . 2004. "2002 Yılı Liman Tepe Kazıları." In *25. Kazı Sonuçları Toplantısı*. Vol. 2, 165–78. Ankara: Ministry of Culture and Tourism.
- Erkanal, H., H. Hauptmann, V. Şahoğlu, and R. Tuncel, eds. 2008. *The Aegean in the Neolithic, Chalcolithic and the Early Bronze Age: Proceedings of the International Symposium, October 13th–19th 1997*. Ankara University Research Center for Maritime Archaeology Publication 1. Ankara: Ankara University.
- Erkanal, H., V. Şahoğlu, R. Tuncel, O. Kouka, L. Keskin, and İ. Tuğcu. 2009. "2007 Yılı Liman Tepe Kazıları." In *30. Kazı Sonuçları Toplantısı*. Vol. 1, 299–322. Ankara: Ministry of Culture and Tourism.
- . 2010. "Liman Tepe 2008 Yılı Kara Kazıları." In *31. Kazı Sonuçları Toplantısı*. Vol. 4, 347–60. Ankara: Ministry of Culture and Tourism.
- . 2011. "Liman Tepe 2009 Yılı Kara Kazıları." In *32. Kazı Sonuçları Toplantısı*. Vol. 4, 446–62. Ankara: Ministry of Culture and Tourism.
- Erkanal, H., V. Şahoğlu, A. Aykurt, O. Kouka, and İ. Tuğcu. 2012. "Liman Tepe 2010 Yılı Kara Kazıları." In *33. Kazı Sonuçları Toplantısı*. Vol. 4, 463–78. Ankara: Ministry of Culture and Tourism.
- Ersoy, Y., Ü. Güngör, and H. Cevizoğlu. 2011. "2009 Yılı Klazomenai Kazısı." In *32. Kazı Sonuçları Toplantısı*. Vol. 4, 169–71. Ankara: Ministry of Culture and Tourism.
- Goldman, H. 1956. *Excavations at Gözlü Kule, Tarsus*. Vol. 2, *From the Neolithic Through the Bronze Age*. Princeton: Princeton University Press.
- Hauptmann, H. 1999. "The Urfa Region." In *Neolithic in Turkey: The Cradle of Civilization. New Discoveries*, edited by M. Özdoğan and N. Başgelen, 65–86. Ancient Anatolian Civilizations 3. Istanbul: Arkeoloji ve Sanat Yayınları.
- Horejs, B., A. Galik, U. Thanheiser, and S. Wiesinger. 2011. "Aktivitäten und Subsistenz in den Siedlungen des Çukuriçi Höyük: Der Forschungsstand nach den Ausgrabungen 2006–2009." *PZ* 86(1):31–66.
- Isler, H.-P. 1973. "An Early Bronze Age Settlement on Samos." *Archaeology* 26:170–75.
- Joukowsky, M. 1986. *Prehistoric Aphrodisias: An Account of the Excavations and Artifact Studies*. Vol. 1, *Excavations and Studies*. Archaeologia transatlantica 3. Providence and Louvain-La-Neuve: Brown University and Institut Supérieur d'Archéologie et d'Histoire de l'Art Collège Érasme.
- Korfmann, M. 2001. "Troia als Drehscheibe des Handels im 2. und 3. vorchristlichen Jahrtausend: Erkenntnisse zur Troianischen Hochkultur und zur Maritimen Troia-Kultur." In *Troia: Traum und Wirklichkeit*, 355–68. Stuttgart: Theiss.
- Kouka, O. 2002. *Siedlungsorganisation in der Nord- und Ost-ägäis während der Frühbronzezeit (3. Jt. v. Chr.)*. Internationale Archäologie 58. Rahden: Marie Leidorf.
- . 2008. "Diaspora, Presence or Interaction? The Cyclades and the Greek Mainland from the Final Neolithic to Early Bronze II." In *Horizon: A Colloquium on the Prehistory of the Cyclades*, edited by N. Brodie, J. Doole, G. Gavalas, and C. Renfrew, 311–19. Cambridge: McDonald Institute for Archaeological Research.
- . 2009. "Third Millennium BC Aegean Chronology: Old and New Data Under the Perspectives of the Third Millennium AD." In *Tree-Rings, Kings, and Old World Archaeology and Environment: Papers Presented in Honor of Peter Ian Kuniholm*, edited by S.W. Manning and M.J. Bruce, 133–49. Oxford: Oxbow.
- . 2011. "Symbolism, Ritual Feasting and Ethnicity in Early Bronze Age Cyprus and Anatolia." In *On Cooking Pots, Drinking Cups, Loomweights and Ethnicity in Bronze Age Cyprus and Neighbouring Regions: An International Archaeological Symposium Held in Nicosia, November 6th–7th, 2010*, edited by V. Karageorghis and O. Kouka, 43–56. Nicosia: A.G. Leventis Foundation.
- . Forthcoming (a). "Local and Imported in Action: Western Anatolian and Cycladic Figurines in the Early Bronze Age Miletus." In *Ein Minoer im Exil: Festschrift zum 65. Geburtstag von Wolf-Dietrich Niemeier*, edited by I. Kaiser, O. Kouka, and D. Panagiotopoulos. Bonn: Rudolf Habelt.
- . Forthcoming (b). "Past Stories—Modern Narratives: Cultural Dialogues Between East Aegean Islands and Western Anatolian Mainland in the Fourth Millennium BC." In *Western Anatolia Before Troy: Proto-Urbanisation in the 4th Millennium BC?*, edited by B. Horejs and M. Mehofer. Vienna: Österreichische Akademie der Wissenschaften.
- Kouka, O., and V. Şahoğlu. Forthcoming. "New Data on the Aegean Early Bronze Age I–Early Bronze Age II (Early) Chronology from Liman Tepe, Izmir." In *The Aegean Early Bronze Age: New Evidence. International Conference, Athens, April 11th–14th*, edited by C.G. Doumas, A. Giannikouri, and O. Kouka. Athens: Ministry of Culture, Archaeological Institute of Aegean Studies.
- Kyrieleis, H., H.J. Kienast, and H.-J. Weisshaar. 1985. "Ausgrabungen im Heraion von Samos 1980/81." *AA* 100:365–418.
- Maran, J. 1998. *Kulturwandel auf dem griechischen Festland und den Kykladen im späten 3. Jahrtausend v. Chr.: Studien zu den kulturellen Verhältnissen in Südosteuropa und dem zentralen sowie östlichen Mittelmeerraum in der späten Kupfer- und frühen Bronzezeit*. 2 vols. Universitätsforschungen zur prähistorischen Archäologie 53. Bonn: Rudolf Habelt.
- Milojčić, V. 1961. *Die prähistorische Siedlung unter dem Heraion: Grabung 1953 und 1955*. Samos 1. Bonn: Rudolf Habelt.
- Morgan, C., R.K. Pitt, D. Mulliez, and D. Evely. 2009–2010. "Archaeology in Greece 2009–2010." *AR* 56:156–57.
- Niemeier, B., and W.-D. Niemeier. 1997. "Milet 1994–1995: Projekt Minoisch-mykenisches bis protogeometrisches Milet. Zielsetzung und Grabungen auf dem Stadionhügel und am Athenatempel." *AA*:189–248.
- Niemeier, W.-D. 2000. "Milet: Knotenpunkt im bronzezeitlichen Metallhandel zwischen Anatolien und der Ägäis?" In *Anatolian Metal*. Vol. 1, edited by Ü. Yalcin, 125–36. *Der Anschnitt* Suppl. 13. Bochum: Deutsches Bergbau Museum.
- . 2005. "Minoans, Mycenaeans, Hittites and Ionians in Western Asia Minor: New Excavations in Bronze Age Miletus-Millawanda." In *The Greeks in the East*, edited by A. Villing, 1–36. British Museum Research Publication 157. London: British Museum.
- . 2007. "Milet von den Anfängen menschlicher Besiedlung bis zur Ionischen Wanderung." In *Frühes Ionien: Eine Bestandsaufnahme. Panionion-Symposium Güzeldamlı, 26. September–1. Oktober 1999*, edited by C. Justus, V. Von Graeve, W.-D. Niemeier, and K. Zimmermann, 3–20. Milesische Forschungen 5. Mainz: Philipp von Zabern.
- Niemeier, W.-D., and O. Kouka. 2010. "Jahresbericht 2009 des Deutschen Archäologischen Instituts. Abteilung Athen: Samos, Heraion." *AA*:113–14.

- . 2011. “Jahresbericht 2010 des Deutschen Archäologischen Instituts. Abteilung Athen: Samos, Heraion.” AA:104–6.
- . 2012. “Jahresbericht 2011 des Deutschen Archäologischen Instituts. Abteilung Athen: Samos, Heraion.” AA:100–1.
- Özdoğan, M., and H. Parzinger. 2012. *Die Frühbronzezeitliche Siedlung von Kanlıgeçit bei Kırklareli: Ostthracien während des 3. Jahrtausends v. Chr. im Spannungsfeld von anatischer und balkanischer Kulturentwicklung*. Archäologie in Eurasien 27, Studien im Thrakien-Marmara-Raum 3. Mainz: Philipp von Zabern.
- Parlama, L. 2007. “Παλαμάρι Σκύρου: Παρατηρήσεις στην εξέλιξη του οικισμού κατά την 3η π.Χ. χιλιετία και προβλήματα αστικοποίησης.” In *Αμύμονα Έργα: Τιμητικός Τόμος για τον Βασίλη Λαμπρινουδάκη*, edited by A.A. Laimou, L.G. Mendoni, N. Kourou, and E. Simantoni-Bournia, 25–48. Αρχαιολογία Παράρτημα 5. Athens: University of Athens.
- Pullen, D.J. 2013. “‘Minding the Gap’: Bridging the Gaps in Cultural Change Within the Early Bronze Age Aegean.” *AJA* 117(4):545–53.
- Rutter, J.B. 1979. *Ceramic Change in the Aegean Early Bronze Age: The Kastri Group, Lefkandi I and Lerna IV. A Theory Concerning the Origin of EH III Ceramics*. UCLAPap 5. Los Angeles: University of California Institute of Archaeology.
- . 1983. “Some Observations on the Cyclades in the Later Third and Early Second Millennia.” *AJA* 87(1): 69–76.
- . 1984. “The Early Cycladic III Gap: What It Is and How to Go About Filling It Without Making It Go Away.” In *The Prehistoric Cyclades: Contributions to a Workshop on Cycladic Chronology*, edited by J.A. MacGillivray and R.L.N. Barber, 95–107. Edinburgh: Department of Classical Archaeology, University of Edinburgh.
- Şahoğlu, V. 2002. *Liman Tepe Erken Tunç Çağı seramiğinin Ege arkeolojisindeki yeri ve önemi*. Ph.D. diss., Ankara University.
- . 2004a. “Interregional Contacts around the Aegean During the Early Bronze Age.” *Anadolu/Anatolia* 27: 97–120.
- . 2004b. “Erken Tunç Çağında Anadolu Ticaret Ağı ve İzmir Bölgesi.” In *I–II. Ulusal Arkeolojik Araştırmalar Sempozyumu*, edited by Z. Çizmeli-Öğün, T. Sipahi, and L. Keskin, 245–62. *Anadolu/Anatolia* Suppl. 1. Ankara: Ankara University, Journal of the Archaeology Department, Faculty of Letters.
- . 2005. “The Anatolian Trade Network and the Izmir Region During the Early Bronze Age.” *OJA* 24(4):339–61.
- . 2007. “Çeşme-Bağlararası: A New Excavation in Western Anatolia.” In *Middle Helladic Pottery and Synchronisms: Proceedings of the International Workshop Held at Salzburg, October 31st–November 2nd, 2004*, edited by F. Felten, W. Gauss, and R. Smetana, 309–22. Denkschriften der Gesamtakademie 42, Ägina-Kolonna Forschungen und Ergebnisse 1. Vienna: Österreichischen Akademie der Wissenschaften.
- . 2011. “Early Bronze Age Pottery in Coastal Western Anatolia.” In *Across: The Cyclades and Western Anatolia During the 3rd Millennium BC*, edited by V. Şahoğlu and P. Sotirakopoulou, 136–43. Istanbul: Sakip Sabancı Museum.
- . 2012. “Çeşme-Bağlararası (2002–2005, 2009–).” In *DTCF Arkeoloji Bölümü, Tarihçesi ve Kazıları (1936–2011)*, edited by O. Bingöl, A. Öztan, and H. Taskiran, 83–90. *Anadolu/Anatolia* Suppl. 3(2), Festschrift Series. Ankara: Ankara University, Journal of the Archaeology Department, Faculty of Letters.
- . Forthcoming. “The Chronology and Definition of the Early Bronze Age II (Late)–Early Bronze Age III (Early) Sequence at Liman Tepe and Bakla Tepe, İzmir.” In *The Aegean Early Bronze Age: New Evidence. International Conference, Athens, April 11th–14th*, edited by C.G. Dumas, A. Giannikouri, and O. Kouka. Athens: Ministry of Culture, Archaeological Institute of Aegean Studies.
- Şahoğlu, V., and P. Sotirakopoulou, eds. 2011. *Across: The Cyclades and Western Anatolia During the 3rd Millennium BC*. Istanbul: Sakip Sabancı Museum.
- Tuncel, R. Forthcoming. “The Late Chalcolithic Period in the Izmir Region.” In *The Aegean Early Bronze Age: New Evidence. International Conference, Athens, April 11th–14th*, edited by C.G. Dumas, A. Giannikouri, and O. Kouka. Athens: Ministry of Culture, Archaeological Institute of Aegean Studies.
- Walter, H. 1963. “Ausgrabungen im Heraion von Samos (1952–1962).” *ArchDelt* 18 B2:286–96.
- Walter, H., and F. Felten. 1981. *Die vorgeschichtliche Stadt: Befestigungen, Häuser, Funde*. *Alt-Ägina* 3(1). Mainz: Philipp von Zabern.
- Warner, J. 1994. *Elmalı-Karataş*. Vol. 2, *The Early Bronze Age Village of Karataş*. Bryn Mawr: Bryn Mawr College.
- Wiencke, M.H. 2000. *Lerna: A Preclassical Site in the Argolid. Results of Excavations Conducted by the American School of Classical Studies at Athens*. Vol. 4, *The Architecture, Stratification and Pottery of Lerna III*. Princeton: American School of Classical Studies at Athens.
- Wiener, M.H. 2013. “‘Minding the Gap’: Gaps, Destructions, and Migrations in the Early Bronze Age Aegean. Causes and Consequences.” *AJA* 117(4):581–92.